

(5)

No. 84-701

APR 15 1985

ALEXANDER L. STEVENS
CLERK

In the Supreme Court of the United States
OCTOBER TERM, 1984

UNITED STATES OF AMERICA, PETITIONER

v.

RIVERSIDE BAYVIEW HOMES, INC., ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE SIXTH CIRCUIT

JOINT APPENDIX

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PETITION FOR CERTIORARI FILED NOVEMBER 1, 1984
CERTIORARI GRANTED FEBRUARY 19, 1985

1882-1 folder

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UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
S.D. AT DETROIT

No. 77-70041

REAL PROPERTY—
All Other Real Property
28 USC 1345
33 USC 1311, 1319 & 1344

RELEVANT DOCKET ENTRIES

DATE NR.	PROCEEDINGS
1977	
Jan 6	1 Complaint filed, no summons issued. DD 1-6-77
" 6	2 Govt's Motion for Prel. Injunction w/ brief and affidavits. DD 1/7/77
" 6	3 Govt's Motion for Temp. Restraining Order w/ brief. DD 1/7/77
" 6	— Hrg. on Motion for TRO, granted. Hrg. and to Jan. 17, 1977 @ 10.00am. Kennedy J.
" 7	4 Temporary Restraining Order w/ notice and OSC Why a Prel. Inj. Should not Issue set for Jan. 11, 1977 @ 4:00pm. DD 1/7/77 Kennedy J.

* * * *

(1)

DATE NR.	PROCEEDINGS
1977	
Jan 12 6	Motion and OSC Why Deft's Should not be held in contempt of court w/ attachment and affidavit set for Jan. 13, 1977 @ 3:30pm. DD 1/13/77 Kennedy J.
	* * * *
" 13 8	ANSWER of both defts. to Complaint for Injunctive relief and for Imposition of a Civil Penalty. DD 1/13/77
" 13 9	Deft's Memo. of Law w/ exhibits. DD 1/13/77
" 13 —	Hrg. cont. to Saturday, Jan. 15, 1977 @ 9:00am. Kennedy J.
	* * * *
" 15 —	Hrg. on M/Prel. Inj. cont. Adj. to Jan. 17, 1977. Kennedy J.
" 17 —	Hrg. on Motion for Prel. Inj. cont. Adj. to Jan. 19, 1977 @ 9:00am. Kennedy J.
" 19 —	Hrg. on Motion for prel. inj. conts. Adj. to Jan. 20, 1977 @ 9:30am. Kennedy J.
" 21 —	Hrg. on motion for prel. inj. continues; adj. to Jan. 22, 1977 @ 8:30am. Kennedy J.
" 21 —	Hrg. on motion for prel. inj. conts. Adj. to Sat., Jan. 22, 1977 @ 10:00am. Kennedy J.
	* * * *
" 22 —	Hrg. on Motion for prel. inj. conts. Thomas Gough, sworn. Kennedy J.
" 24 —	Hrg. on motion for prel. inj. conts. Closing arguments; rebuttal; Judge Kennedy to issue opinion. Kennedy J.
" 26 12	Transcript of Jan. 13, 1977. DD 1/26/77
" 26 13	Transcript of Jan. 15, 1977. DD 1/26/77

DATE NR.	PROCEEDINGS
1977	
Jan 26 14	Affidavit of William N. Hedeman, Jr. DD 1/26/77
Feb 7 15	TRANSCRIPT of Jan. 24/77. DD 2/7/77
" 11 16	Transcript of Jan. 24, 1977. DD 2/14/77
" 24 17	Opinion and Order Granting Motion for Preliminary Injunction in Part. DD 2/25/77
	* * * *
June 9 20	Pltf's Rule 34(a) Request to Enter upon Real Property for Discovery Purposes. DD 6/10/77
" 21 21	Obj. to Request to Enter Upon Real Property for Discovery. DD 6/21/77
	* * * *
July 21 30	Order Denying Deft's Obj. to Pltf's Request to Enter Upon Real Property for Discovery. DD 7/22/77
	* * * *
1978	
Jan 5 34	Deposition of William C. Otto and Arnold J. Rybak, taken on Dec. 6/77. DD 1/5/78.
	* * * *
Mar 16 37	Transcript of January 17/77. (Volume I). DD 3/16/78.
" " 38	Transcript of January 19/77. (Volume II). DD 3/16/78.
" " 39	Transcript of January 20/77. (Volume III). DD 3/16/78.
" " 40	Transcript of January 21/77. (Volume IV). DD 3/16/78.

DATE NR.	PROCEEDINGS
1978	
June 20 41	Deft's Motion for Summary Judgment w/ brief, attachment, proof of service and notice of hrg. set for June 29, 1978 @ 2:00pm. DD 6/22/78
	* * * *
July 20 43	Pltf's Cross Motion for Summary Judgment w/ brief. DD 7/20/78
" 20 44	Pltf's Opp. to Deft's Motion for Summary Judgment. DD 7/20/78
	* * * *
Sept 6 46	Answer to Cross Motion for summary judgment w/proof of service. DD 9/9/78
Sept 13 —	Hearing held on cross motions for summary judgment and taken under advisement. DD 9/14/78. Kennedy, J.
Sept 22 47	Supp. brief in support of Deft's Motion for Summary Judgment. DD 9/25/78
" 26 48	OPINION and ORDER Denying Cross Motions for Summary Judgment. DD 9/27/28 Kennedy, J.
	* * * *
Oct 25 50	Counter-claim of counter ptf. Riverside Bayview Homes, Inc. with affirmative defenses. DD 10/30/78.
	* * * *
Dec 28 52	Pltf's Motion to Dismiss Counterclaim w/brief. DD 12/29/78
	* * * *
1979	
Jan 11 55	DEFT. Riverside Bayview Homes answer to motion to dismiss counterclaim. DD 1/15/79
	* * * *

DATE NR.	PROCEEDINGS
1979	
Jan 19 —	Motion to Dismiss Counterclaim heard and Granted as to Cts. 1 & 2; Granted in part and Denied in part as to Ct. 3. DD 1-23-79
	* * * *
" 22 58	Judgment of Dismissal in part, as to Defts' Counterclaim. DD 1-25-79 Kennedy, J.
	* * * *
" 29 60	Notice of filing deposition transcripts and exhibits with certificate of service. DD 1/30/79
Feb 9 61	Pltf's Proposed Findings as to Deft's Violations. DD 2-12-79
Feb 12 —	Bench Trial begins and cont'd to 2-15-79. Kennedy, J. DD 2-15-79
" 15 —	Bench Trial cont'd; Final Arguments had and cont'd to 2-19-79. Kennedy, J. DD 2-16-79
" 15 62	Pltf's Supplemental Point of Authority with certificate of service. DD 2-16-79
	* * * *
" 20 —	Bench Trial cont'd; Trial Concluded; Judge to make Findings of Fact and Conclusions of Law. Kennedy, J. DD 2-22-79
June 20 64	Opinion ordering the deft's to remove the fill to the East of the line drawn on the court's order within sixty (60) days thereof, or in lieu thereof pay a fine in the amount of Ten Thousand Dollars (\$10,000.00) each, to the Treasury of the USA. DD 6/22/79 Kennedy, J.
" 20 65	Judgment of contempt. DD 6/22/79 Kennedy, J.
" 20 66	Judgment permanently enjoining deft's. DD 6/22/79 Kennedy, J.

DATE NR.	PROCEEDINGS
1979	
June 20 67	Declaratory judgment and further ordering the US Army Corps of Engineers consider and enter a decision upon the application for a permit of deft. Riverside Bayview Homes, submitted 9/15/76. DD 6/22/79 Kennedy, J.
" 20 68	Opinion and order holding deft's in contempt of court for violation of temporary restraining order. DD 6/22/79 Kennedy, J.
	* * * *
Jul 20 70	Deft's notice of appeal. DD 8/3/79
	* * * *
Aug 14 73	Govt's notice of cross-appeal. DD 8/17/79
" 15 74	Govt's amended notice of cross-appeal. DD 8/17/79
	* * * *
" 24 76	Copy of Letter to Alton Cobb re: transcript needed for all proceeding before Judge Kennedy. DD 8/27/79
Sep 20 77	Transcript of 1/13/77, DD 9/21/79
" 20 78	Transcript of 1/15/77. DD 9/21/79
Nov 6 79	Transcript of 9/13/78. DD 11/20/79
" 21 80	Record transmitted to CCA. DD 11/29/79
1980	
Feb 7 81	Acknowledgement of file received at CCA; 80-1007. dd 2-07-80
Apr 17 82	Mandate from CCA that case be remanded for further proceedings in the district court. dd 4-17-80 (file returned)
Jul 7 83	Order of reassignment from J. Kennedy to J. Gilmore. DD 7/30/80. Feikens, J.

DATE NR.	PROCEEDINGS
1980	
Nov 21 84	DEft., Riverside, brief in response to remand in light of new regulation w/proof of service. dd 12/2/80
	* * * *
Nov 25 86	Pltf's., and deft's., joint motion for reconsideration on remand w/brief, attachments and proof of service. dd 12/2/80
Nov 26 87	Motion & order for pltfs., appearance is granted. dd 12/2/80 Gilmore
	* * * *
Dec 15 —	Deft's., exhibit #1. dd 12/17/80
Dec 19 90	Pltf., reply to deft's., brief in response to remand in light of new regulation w/certificate of service and attachments. dd 12/24/80
Dec 22 91	Deft's., reply brief in response to the court of appeals remand in light of new regulations w/attachments. dd 12/24/80
	* * * *
1981	
Jan 21 93	Pltf's., supplemental brief in response to defts., reply w/proof of service and attachments. dd 1/27/81
	* * * *
Feb 19 95	Pltf's., response to dfts., supplemental brief, w/proof of service. dd 2/20/81
Apr 9 96	Affidavit of George F. Short w/attachments. dd 4/13/81
	* * * *
Apr 29 99	Supplemental affidavit of George F. Short, w/attachments. dd 5/5/81
Apr 30 —	Heard motion for preliminary injunction granted. dd 5/6/81 Gilmore, J.
	* * * *

DATE NR.	PROCEEDINGS
1981	
May 18 101	Findings & order re: dfts., Riverside, is permanently enjoined from depositing fill or any other pollutants into the waters of Lake St. Clair, the Clinton River, or their adjacent wetlands or in any other water of the U.S. unless & until a permit therefore, has been obtained under the provisions of the Clean Water Act, 33 U.S.C. 1251. w/proof of service. dd 5/18/81 Gilmore, J * * * *
May 29 103	DFts., Riverside Bayview Homes, Inc., appeal on #101. dd 6/2/81 (no fee paid) * * * *
June 2 —	Notice sent to CCA. dd 6/2/81
June 2 —	Appeal fee paid. #29401 \$65.00. dd 6/3/81 * * * *
Jun 23 —	Copy of docket sheet sent to CCA. dd 6/23/81 out of date order
Jun 16 109	Letter to court re: attachment of docket sheet with entries checked off to be sent to cca for appeal. dd 6/30/81
Jul 16 110	Pltf, U.S.A., notice of appeal, Hayward Draper, AUSA, said they were appealing most of the orders in the case, w/certificate of service. dd 7/23/81 * * * *
Jul 29 113	Ack. from CCA re: notice of appeal from dft. Riverside Bayview Homes. CCA #81-1405. (the file) dd 7/30/81
Aug 18 114	FILE SENT TO CCA. dd 8/18/81
Oct 25 115	FILE SENT BACK TO CCA, (was sent here around 9/23/82 for atty. to view) dd 10/25/82

DATE NR.	PROCEEDINGS
1981	
Oct 29 116	RETURN receipt from CCA: the file. dd 11/1/82
Nov 5 117	TRAN. from 4/30/81. dd 11/9/82
Nov 9 118	SUPPLEMENTAL sent to CCA: Trans. #117. dd 11/9/82 * * * *
Nov 28 120	ACK. from CCA: return of file after atty. viewed it here in Det. dd 12/1/82
Nov 28 121	ACK. from CCA: trans. #118. dd 12/1/82
1983	
Jul 12 122	LETTER to court from Louis D. Cataldo re: communique & accompanying survey.
Aug 2 123	LETTER re: attached communique and ac- companying survey.
Oct 7 —	TRANSCRIPTS and exhibits that were left in file mailed to CCA: Attention Judy King per her request. ep.
1984	
Mar 12 124	SLIP opinion from CCA that the declaratory judgment of the District Court is vacated and claim is dismissed. pad
Jun 21 125	MANDATE from CCA that the declaratory judgment of district court is vacated and claim is dismissed w/slip opinion attached. lsb FILE RETURNED
" 21 126	ORDER denying petition for rehearing en banc from CCA. lsb

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

Nos. 80-1007 and 80-1116

UNITED STATES OF AMERICA,
PLAINTIFF-APPELLEE, CROSS-APPELLANT

vs.

RIVERSIDE BAYVIEW HOMES, INC.;
ALLIED AGGREGATE TRANSPORTATION COMPANY,
DEFENDANTS-APPELLANTS, CROSS APPELLEE

RELEVANT DOCKET ENTRIES

DATE	FILINGS—PROCEEDINGS
1979	
8/17	Copy of notice of appeal swh
11/23	Certified Record (1 vol. pleadings, 10 vol. transcript, 2 vol. depositions) received from district court swh
* * * *	
1980	
01/15	<i>Certified Record</i> (1 vol. pleadings, 10 vol. transcript 2 vol. depositions), filed; and cause docketed swh
1/15	Brief (25) of appellant yh
1/15	Appendix (10) yh
* * * *	
2/4	Motion of appellee for remand to the district court for reconsideration in light of new regulations— unopposed (m-2/1) sa

DATE	FILINGS—PROCEEDINGS
1980	
2/20	Notice of Cross Appeal, filed; and cause docketed (in Certified Record) swh
2/28	Order remanding the cause for further proceedings in the district court (Lively, Phillips, and Peck, JJ.) bb
3/27	Mandate issued (No costs taxed) bb

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

Nos. 81-1405 and 81-1498

UNITED STATES OF AMERICA,
PLAINTIFF-APPELLEE, CROSS-APPELLANT

vs.

RIVERSIDE BAYVIEW HOMES, INC., and
ALLIED AGGREGATE TRANSPORTATION COMPANY,
DEFENDANTS-APPELLANTS, CROSS APPELLEES

RELEVANT DOCKET ENTRIES

DATE	FILINGS—PROCEEDINGS
1981	
6/25	1) Copy of notice of appeal filed; and cause docketed rk
7/08	<i>Certified Record</i> (2 vol. pleadings, 8 vol. transcript, 1 vol. depositions) filed rk * * * *
8/07	4) Copy of notice of cross appeal filed; and cause docketed rk * * * *
8/26	<i>Certified Supplemental Record</i> (2 vol. pleadings) filed rk * * * *

DATE	FILINGS—PROCEEDINGS
1981	
10/21	13) Order granting appellant-cross-appellee's motion to hold the briefing schedule in abeyance until 12/15/81. The appellant-cross-appellee is directed to file status reports at thirty (30) day intervals beginning 11/30/81 and further directing that the appellant-cross-appellee to file a final status report or a brief & joint appendix on or before 12/15/81 ac * * * *
12/16	15) Motion: appellant/cross-appellee to hold briefing schedule in abeyance for 90 days to and including 3/15/82 (m-12/15/81) (Motion granted; status reports to continue at 30 day intervals) tb * * * *
1982	
3/16	18) Status report and motion of appellant/cross-appellee requesting a) leave to file supplemental status report on or before 3/29/82 and b) that briefing schedule be held in abeyance to and including 3/29/82 (m-3/15/82) (Granted, JPH/ew 4/5/82) tb * * * *
7/14	23) Order granting stipulated briefing schedule; appellant c. as-appellee brief due 8/26/82; remaining briefs and joint appendix due pursuant to Rule 10 and 11, FRAP; entered pursuant to Rule 4(f) Sixth Circuit Rules. * * * *
10/27	<i>Certified Supplemental Record</i> (2 vol. depositions) filed * * * *
10/29	Brief (11) of appellants/cross-appellees (m-10/27/82)

DATE	FILINGS—PROCEEDINGS
1982	
11/12	Certified Supplemental Record (1 vol. transcript) (4/30/81)
	* * * *
12/10	Brief (10) of appellee/cross-appellant (m-12/9/82)
	* * * *
1983	
2/18	Reply brief (11) of appellant/cross-appellees (m-2/16/83)
	* * * *
3/18	Reply brief (10) of appellee/cross-appellant (m-3/18/83)
	* * * *
3/29	Joint Appendix (5) (m-3/23/83)
	* * * *
7/14	38) Letter from Louis D. Cataldo to U.S. Army Corps of Engineers with accompanying survey [PAPERS FOR THE COURT] tb
	* * * *
*10/5	Cause argued by Richard Gienapp for appellant; by Ellen Durkee for appellee and case submitted to the Court (Before: Merritt, Martin, and Weick, JJ.) lb
	* * * *
1984	

3/7 42) Declaratory judgment of District Court vacated and claim dismissed (Merritt, Martin and Weick, JJ.) (APPELLANTS/CROSS-APPELLEES TO RECOVER COSTS) FP tb

3/7 Opinion by Merritt, J. tb

3/19 43) Motion: plaintiff for extension to 4/20/84 to file petition for rehearing or a petition for rehearing with suggestion for en banc (m-

DATE	FILINGS—PROCEEDINGS
1984	
	3/16/84) (Motion Granted, Merritt, J. 3/29/84) lb
	* * * *
4/20	45) Petition for rehearing and suggestion for rehearing en banc (25) of plaintiff (m-4/19/84) lb
4/20	46) Motion: National Wildlife Federation for leave to file brief as amicus curiae in support of petition for rehearing (m-4/19/84) lb
4/20	Brief (15) of amicus curiae (m-4/19/84) TENDERED (Granted 4/26/84, Merritt) Filed 4/26/84 lb
4/30	47) Corporate Disclosure of amicus curiae pje
6/08	48) Order denying petition for rehearing en banc (Merritt, Martin and Weick, JJ.) jk
6/18	49) Mandate issued (COSTS NONE) tb
11/7	50) Notice of filing petition for certiorari (S.C. #84-701, filed 11/1/84) tb

PLAINTIFF'S EXHIBIT 54

Vol. VIII *Michigan Academician* (1975)*Are Great Lakes' wetlands going under?*

**MODIFICATION OF COASTAL WETLANDS IN
SOUTHEASTERN MICHIGAN AND
MANAGEMENT ALTERNATIVES**

EUGENE JAWORSKI AND C. NICHOLAS RAPHAEL
Eastern Michigan University

Introduction

With the recent promulgation of state and federal coastal-zone-management legislation, shorelines and coastal environments are receiving considerable attention. In Michigan, because of record high lake levels during the past few years, attention has been focused on shoreline recession along Lake Michigan and on flooding problems accompanying onshore winds along western Lake Erie and Lake St. Clair. Another equally significant problem, though perhaps less urgent than erosion or flooding, is the modification and, in some instances, destruction of coastal wetlands. Coastal wetlands, which include bays, marshlands, and nearshore areas, have intrinsic value as biological systems, filtering basins, and habitat for fish and wildlife. Compared to the states of Minnesota and Wisconsin, Michigan is just beginning to address the problem of wetland modification and protection (1).

Two extensive areas of coastal wetlands in the state of Michigan exist along the west shorelines of both Lake St. Clair and Lake Erie, the latter stretching from Toledo northward to Detroit. Both areas are characterized by marshlands that have undergone significant modification over the past century. To demonstrate this modifica-

tion, a series of maps were constructed that depict the historical changes in the wetlands. These maps show the loss of marsh environments and also illustrate the processes by which the wetlands were modified. Data were collected through the analysis of aerial photographs and Lake Survey Charts, as well as from field studies. This investigation represents an overview of these wetland modifications and, as such, may serve as input to future wetland management and marsh protection measures.

Lake St. Clair Wetlands

Lake St. Clair is a relatively small, shallow lake with a maximum depth of 22 feet, excluding an artificially maintained ship channel. Though the mean elevation of the lake is approximately 574 feet above sea level, record high levels of 576.5 feet have been recorded during the past few years. The principal use of the lake and lake shorelines is recreational, including boating, fishing, and seasonal waterfowl hunting. In addition, Lake St. Clair is a significant commercial waterway linking the Upper and Lower Great Lakes with a 27-foot seaway channel.

Rather detailed navigation maps of 1873 show that the wetlands of Lake St. Clair are associated with the deltaic plains of the St. Clair and Clinton Rivers (Figure 1). A coastal marsh, averaging less than a mile in width, exists within a narrow coastal zone between the two deltas. At this time, the wetlands comprise approximately 18,000 acres. Within the wetlands there were about 8,300 acres of non-marsh that consisted mainly of agricultural fields, some of which were drained marshlands. Thus, the dominant land cover at this time was primarily natural marshlands with limited agricultural or other uses.

An analysis of the coastal land use in 1973 during record high lake levels reveals that the only significant area of intact wetlands is within the interdistributary basins of the St. Clair River delta and a small portion south of the Clinton River (Figure 2). At this time the

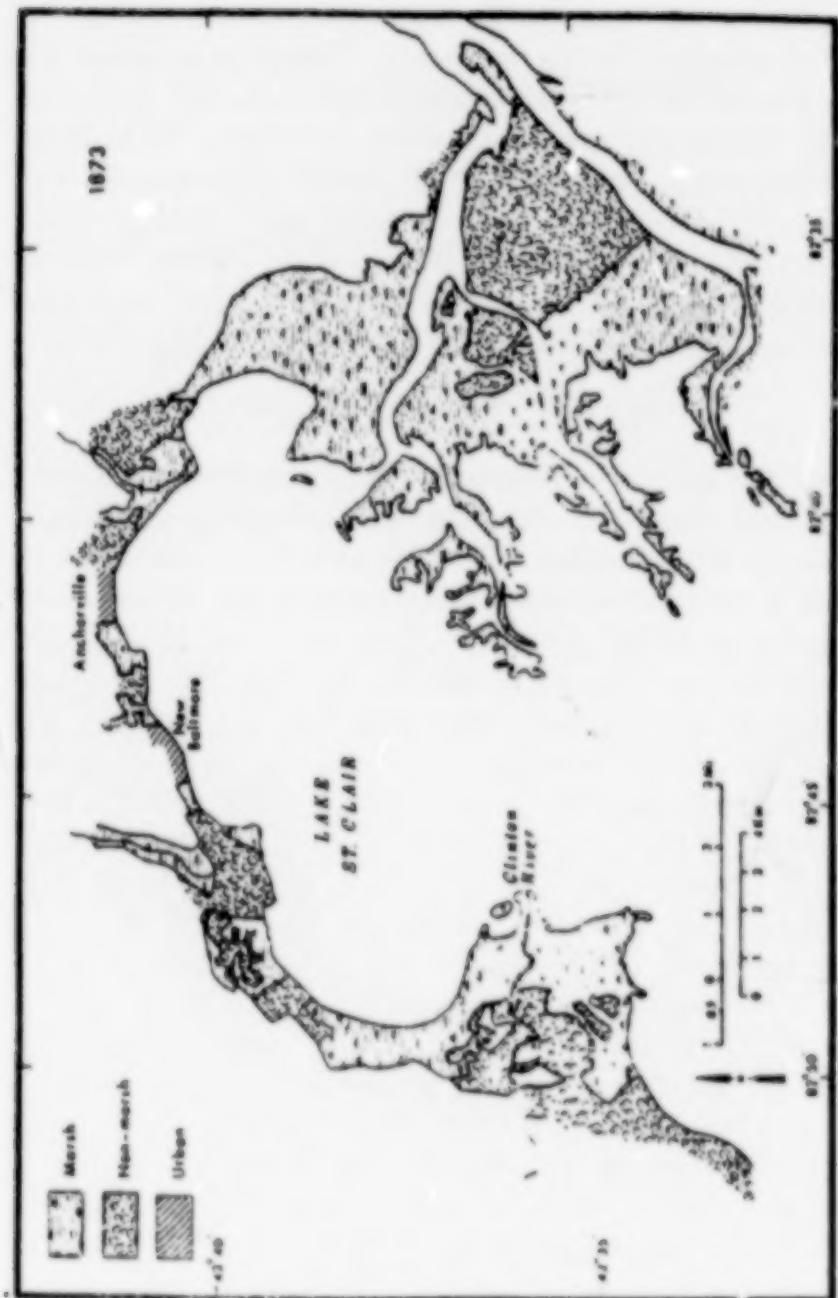


FIG. 1. Extent of wetlands in Lake St. Clair, 1873.



FIG. 2. Remaining wetlands in Lake St. Clair, 1973.

marshes of Lake St. Clair represented only some 5,000 acres. Urban expansion into the Clinton River delta and linear settlement along the lake front is clearly evident. Also, residential expansion onto the natural levees and deltaic plain of the St. Clair River delta has contributed to the permanent loss of wetlands. At present, 16,200 acres of coastal Lake St. Clair may be classified as urban. On Harsens Island much of the lower portion of the interdistributary marsh has been diked and planted with corn and other crops to attract migratory waterfowl.

The St. Clair delta represents one of the largest coastal wetlands in the state. Basically it is composed of two deltas: the first, of modern age, is deposited near the present lake level and is colonized by marsh vegetation; the other is a geologically older, gently sloping delta approximately 5 feet above the modern delta and is covered by deciduous hardwoods. Two vegetation transects in the delta were made in 1972 and 1974 during a period of rising lake level (Figure 3). As inundation occurred over the two-year period, the higher dogwood meadow was eventually invaded by sedges. The sedges in turn were replaced by cattails, which became the dominant wetland vegetation of the deltaic plain. Also, the transgressive beaches along the shorelines were gradually inundated by the rising waters of the lake and colonized by cattails. Therefore, with rising lake level, the wetlands of the modern delta are displaced landward. * * *

* * * *

EXCERPTS FROM DEFENDANT'S EXHIBIT 28

United States Department of Agriculture,
Soil Survey of Macomb County, Michigan (1971)

[3] 5. Lenawee-Corunna-Lamson association

Nearly level, poorly drained soils that have a moderately fine textured to moderately coarse textured subsoil; on lake plains

This association is made up of poorly drained, nearly level soils that formed in lake-laid sediments and other sediments. It is on lake plains throughout the southern half of the county where the relief is slightly depressional to gently sloping. This association covers about 20 percent of the county.

Lenawee soils make up about 40 percent of this association, Corunna soils 30 percent, and Lamson soils 10 percent. * * *

[4] * * * Lamson soils have fine sandy loam in the surface layer and subsoil. * * *

This association is well suited to crops. The water table is high, however, and drainage is the chief management problem. Water ponds in low places and hinders farmwork in spring and after rains. Drainage is difficult in some places because suitable outlets are lacking.

Most of this association has severe limitations for use as residential and recreational areas. The high water table and poor surface drainage cause difficulty in laying out streets and utility lines and in constructing houses.

[24] Lamson fine sandy loam (0 to 2 percent slopes) (La).—This soil occurs throughout the county. Some areas are in depressions. Runoff is very slow or ponded, permeability is moderately slow, infiltration is moderate, and the available moisture capacity is high. The water table is at or near the surface much of the year.

* * *

This soil is used largely for corn, small grain, hay, and pasture. Some areas are idle or are wooded. Limitations are moderate to severe because of the high water table. Artificial drainage is a major management requirement for all uses of this soil. Drained areas have higher yields than undrained ones. Drainage ditches should be dug when the soil is dry because of its unstableness when wet. Tile blinding to prevent plugging by the fine soil material is often necessary because this soil flows when wet. This soil dries out later in spring and after rain than the better drained, similar-textured Sisson and Minoa soils. Management that provides a regular supply of organic matter helps to control soil blowing and to improve soil structure. If wet, this soil has poor trafficability, and the surface becomes cloddy when worked. Capability unit IIw-6(3c); woodland suitability group S.

* * * *

[49] Capability grouping shows, in a general way, the suitability of soils for most kinds of field crops.

* * * *

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

* * * *

[The letter] *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage);

TABLE 2.—Predicted average yields per acre of crops under two levels of management
[Yields in column A are those to be expected under common management; yields in columns B are those to be expected under improved management.
Dashes indicate that the soil is not suited to the crop specified, or that the crop ordinarily is not grown]

Soil	Corn										Soybeans					
	For grain		For silage		Oats		Wheat		Alfalfa		Mixed hay		Field beans			
	Bu.	Bu.	Tons	Tons	Bu.	Bu.	Bu.	Bu.	Tons	Tons	Tons	Tons	Bu.	Bu.	Bu.	Bu.
Au Gres sand, 0 to 6 percent slopes	26	45	4	8	20	40	16	25	1.3	2.1	0.7	1.6	—	—	—	—
Au Gres sand, loamy substratum, 0 to 6 percent slopes	25	45	4	8	20	40	16	25	1.3	2.1	.8	1.7	—	—	—	—
Blount loam, 0 to 2 percent slopes	65	90	12	15	40	80	35	45	2.2	4.2	2.0	2.8	20	30	25	35
Blount loam, 2 to 6 percent slopes	65	90	12	15	40	80	35	45	2.2	4.2	2.0	2.8	20	30	25	35
Boyer loamy sand, 0 to 2 percent slopes	35	65	6	11	30	50	25	40	2.0	3.0	1.0	1.8	—	—	—	—
Boyer loamy sand, 2 to 6 percent slopes	35	65	6	11	30	50	25	40	2.0	3.0	1.0	1.8	—	—	—	—
Boyer loamy sand, 6 to 12 percent slopes	32	60	5	10	27	45	20	35	2.0	3.0	1.0	1.8	—	—	—	—
Boyer sand loam, 0 to 2 percent slopes	40	70	7	12	32	60	25	40	2.0	3.0	1.2	2.0	—	—	—	—
Boyer sandy loam, 2 to 6 percent slopes	40	70	7	12	32	60	25	40	2.0	3.0	1.2	2.0	—	—	—	—
Boyer sandy loam, 6 to 12 percent slopes	35	65	6	11	25	55	20	35	2.0	3.0	1.2	2.0	—	—	—	—
Boyer sandy loam, 12 to 18 percent slopes	32	60	5	10	25	50	19	30	2.0	3.0	1.2	2.0	—	—	—	—
Boyer sandy loam, 18 to 25 percent slopes	—	—	—	—	—	—	—	—	—	—	.6	1.2	—	—	—	—
Boyer gravelly loamy sand, loamy subsoil variant, 2 to 6 percent slopes	35	65	6	11	30	60	25	40	2.0	3.0	1.2	2.0	—	—	—	—
Brevort-Selfridge complex	30	65	5	11	30	50	17	35	1.4	2.5	—	—	—	—	—	—
Celina loam, 0 to 2 percent slopes	55	95	10	16	56	75	35	45	3.5	4.5	2.0	3.5	14	25	20	30
Celina loam, 2 to 6 percent slopes	55	95	10	16	55	75	35	45	3.5	4.5	2.0	3.5	14	25	20	30
Ceresco fine sandy loam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cohoctah fine sand loam	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Conover loam, 0 to 2 percent slopes	60	100	11	17	65	80	35	55	2.7	5.0	2.0	3.5	20	35	23	35
Conover loam, 2 to 6 percent slopes	60	100	9	14	45	70	25	45	3.5	7.7	2.0	3.5	18	27	22	32
Cocunna sandy loam	55	90	10	15	50	60	35	45	2.5	4.2	2.0	2.8	20	35	20	35
Del Rey loam, 0 to 2 percent slopes	55	90	10	15	50	60	35	45	2.5	4.2	2.0	2.8	20	35	20	35
Del Rey loam, 2 to 6 percent slopes	50	85	9	14	45	75	30	45	2.5	4.2	2.0	2.8	20	35	20	35
Del Rey-Metamora sandy loam, 0 to 2 percent slopes	50	85	9	14	45	75	30	45	2.5	4.0	1.8	2.6	18	30	20	32

TABLE 2—Continued

Soil	Corn												Field beans													
	For grain				For silage				Oats				Wheat				Alfalfa				Mixed hay				Soy-beans	
	Bu.	Bu.	Tons	Tons	Bu.	Bu.	A	B	A	B	Bu.	Bu.	A	B	Tons	Tons	Bu.	Bu.	A	B	Bu.	Bu.	A	B		
Del Rey-Metamora sandy loama, 2 to 6 percent slopes	50	85	9	14	45	75	30	45	2.3	4.0	1.8	2.5	1.8	30	20	32										
Dryden sandy loam, 0 to 2 percent slopes	45	85	8	14	45	65	35	50	2.5	4.0	1.5	2.5	1.5	25	25	35										
Dryden sandy loam, 2 to 6 percent slopes	45	85	8	14	45	65	35	50	2.5	4.0	1.5	2.5	1.5	25	25	35										
Edwards muck	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Enzley-Parkhill complex	55	100	10	17	50	80	25	50	2.0	4.5	1.8	3.0	1.2	2.8	—	—	—	—	—	—	—	—	20	32		
Fulton sandy loam, 0 to 2 percent slopes	35	80	6	13	40	65	25	40	1.5	3.0	1.2	2.8	—	—	—	—	—	—	—	—	—	—	—	20	32	
Fulton loam, 0 to 2 percent slopes	35	80	6	13	40	65	25	40	1.5	3.0	1.2	2.8	—	—	—	—	—	—	—	—	—	—	—	20	30	
Gilford sandy loam	40	75	7	12	35	60	25	35	1.8	3.0	1.5	2.5	—	—	—	—	—	—	—	—	—	—	—	22	33	
Gilford sandy loam, silty subsoil variant	40	80	7	13	35	65	25	40	1.8	3.0	1.7	2.7	—	—	—	—	—	—	—	—	—	—	—	14	22	
Granby loamy fine sand	20	65	3	11	20	45	15	30	1.2	2.2	.8	1.7	—	—	—	—	—	—	—	—	—	—	—	20	35	
Hortville clay loam	35	90	6	15	40	70	25	45	1.5	3.5	1.5	3.0	—	—	—	—	—	—	—	—	—	—	—	20	30	
Lanson fine sandy loam	45	95	8	16	40	70	25	45	2.3	3.5	1.8	2.5	1.5	2.5	—	—	—	—	—	—	—	—	—	20	30	
Lapeer sandy loam, 2 to 6 percent slopes	45	85	8	14	45	65	30	40	2.5	4.0	1.3	2.8	—	—	—	—	—	—	—	—	—	—	—	22	33	
Lapeer sandy loam, 6 to 12 percent slopes	40	80	7	14	40	60	25	35	2.2	3.5	1.3	2.8	8	16	20	30										
Lapeer sandy loam, 12 to 18 percent slopes	35	70	6	12	35	55	20	30	1.8	3.0	1.0	1.8	—	—	—	—	—	—	—	—	—	—	—	20	35	
Lapeer sandy loam, 18 to 25 percent slopes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	
Lenawee clay loam	50	100	9	17	45	80	30	55	2.0	5.0	2.0	3.0	—	—	—	—	—	—	—	—	—	—	—	20	30	
Lenawee-Selfridge complex	45	70	8	12	35	60	25	50	2.0	4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	20	30	
Linwood muck	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Locke sandy loam, 0 to 2 percent slopes	55	90	10	15	50	70	30	50	2.2	4.0	1.5	3.0	1.6	25	25	30										
Locke sandy loam, 2 to 6 percent slopes	55	90	10	15	50	70	30	50	2.2	4.0	1.5	3.0	1.6	25	25	30										
Locke very cobbley sandy loam, 0 to 6 percent slopes	40	60	7	10	30	55	20	35	1.4	2.0	1.0	1.7	—	—	—	—	—	—	—	—	—	—	—	—		
Lupton muck	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Made land	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

[64] Wildlife

Table 3 [pp. 66-67] rates the soils according to their suitability for elements of wildlife habitat and for general kinds of wildlife. A rating of *well-suited* means that the soil is relatively free of limitations or that the limitations are easily overcome. *Suited* means that the limitations need to be recognized, but that they can be overcome by good management and careful design. *Poorly suited* means that limitations are severe enough to make use of the soil questionable for wildlife habitat. [In Table 3 Lansom soil is rated as well-suited in the categories of wetland food and cover plants, shallow water developments, excavated ponds, and wetland wildlife; it is rated poorly suited in the category of grain and seed crops and; it is rated suited in the categories of grasses and legumes, wild herbaceous upland plants, hardwood plants, coniferous plants, openland wildlife, and woodland wildlife.]

[65] *Wetland food and cover plants.*—These are plants that grow in moist or wet sites and that provide food and cover for waterfowl and furbearing animals. Examples are cattails, sedges, bulrushes, smartweed, wild millet, water plantain, wildrice, arrowhead, pondweed, pickerelweed, wildcelery, duckweed, and burreed.

* * * *

Wetland wildlife.—In this group are birds and mammals that normally frequent such wet areas as ponds, marshes, and swamps. Examples are muskrat, duck, geese, heron, rail, kingfisher, mink, crane, and bittern.

EXCERPTS FROM THE TRIAL TRANSCRIPT

January 13, 1977

[5] HAL F. HARRINGTON,

was thereupon called as a witness herein, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BEHRINGER:

Q Would you please state your name?

A Hal F. Harrington.

Q Where are you presently employed?

A I am presently employed with the U.S. Army Corps of Engineers, Detroit District, Environmental Branch.

* * * *

[16] THE COURT: Just so I am clear, you are saying that all of the area that was to the south and east of the fill, without exception, was wetlands.

A Then I could see driving in on the road looking off to the south and the east of the fill was a wetland.

THE COURT: And then you stopped at the place where you marked 1.

A Yes, we parked down here and met.

THE COURT: That is not at 1. That is not at 1. You parked and met at 2. Put 2 down there.

A Two.

We then drove along a roadway that was being used as a haul roadway for trucks coming in and dumping fill and parked in the vicinity of No. 1, met with the Defendants, looked out across the fill operations and in walking to the edge of the fill, the fill went right up to what was wetlands and what was underneath the fill operation occurring in this section was wetlands.

[17] THE COURT: By this section you are referring to a line I would like you to mark 3.

A The bulldozer was operating, pushing dirt into this area and the trucks were backing up and dumping dirt which was being leveled with a bulldozer.

THE COURT: I have no further questions. I just wanted to know the general area.

Q (By Mr. Behringer, continuing): Did you look to the east and southeast?

THE COURT: From Point 1, do you mean?

Q (By Mr. Behringer, continuing): From either point, from the boundary line of the dumping or Point 1 or both to study the area beyond the immediate edge of the fill operation?

A Yes, I did. From Site 1 I looked across the east and from Site 1 I also walked towards the south edge of the fill, which I will mark 4, and examined the site of the fill immediately to the south and east from approximately that position of No. 4.

The bulldozer was operating right at No. 3 with the trucks driving in, backing up and dumping and I did not want to walk into that zone to go right to the edge of the fill at 3.

Q Now you mentioned that there were trees and shrubs in addition to cattails and other vegetation plants in that area, is that correct?

[18] A Yes, there were.

Q Would the existence of those trees and shrubs have any mitigating effect on your determination that this was wetlands that was being filled?

A No, it would not.

Q Is it correct that there are, that there can be micro zones of different types—

THE COURT: Let's ask the witness why not instead of testifying.

MR. BEHRINGER: I'm sorry, your Honor.

Q (By Mr. Behringer, continuing): Why not, if you could explain?

A Why not the trees and shrubs?

Q Yes, sir.

A There are many types of wetlands. The United States Fish and Wild Life Service has prepared a circular, Circular No. 39, and other publications which define wetlands. It's widely used in the United States. In fact, it's probably the most common usage of wetland classification in the United States. Since it is a U.S. Fish and Wild Life publication of the Department of the Interior they are much more familiar with it.

They do have many types of wetlands that go all the way from the open marsh, they have areas that are dominated by emergent vegetation, you have submerged vegetation, and emergent vegetation, shrubs, saplings, all these are different types of wetlands that are recognized [19] nation-wide.

I might point out that in between some of these shrubs ice was formed. There was a shrub and then two or three or four feet away there was another shrub. I believe some of these were tag elders. During the normal summertime when the snow would melt it would lay there on the top of the surface and you would find duck weed, an aquatic plant that grows on there. You would find aquatic vegetation which would grow in the places between the shrubs and plants, or shrubs and trees that come up.

THE COURT: Did you notice any other kind of trees, that is, a particular kind of tree?

A We did not make a determination at that time of what specifically was there. Based on viewing other wetland areas across the State of Michigan these shrubs and trees would be of a general characteristic. This would be classified as a wetland area particularly with the frozen ice which was there and at that time, looking at that, you got shrubs, you've got trees, you've got cattails, you could make a specific determination if you went in there and collected samples. You could do it in a number of ways. You could do a stem count, a bio assay, or aerial coverage if that was required. I was asked to determine if it was a wetland and it is a wetland beyond any doubt in my mind.

* * * *

[20] Q Was the soil saturated?

A There was frozen water. There was ice at the area of fill. The vegetation that was found there is characterized by [21] requiring a saturated soil, at least a portion of the year, to grow. If it didn't have that saturated soil over a given length of time necessary for growth and reproduction, you would not have that vegetation at the site.

THE COURT: What particular vegetation?

A Say, cattails, some of these, if it was tag elders or red osier, the types of—

THE COURT: Tag elders require saturation a portion of the year?

A That is correct.

Cattails require saturation. Duck weed that would be characteristic of open areas during the summer months has to have water or it isn't there.

* * * *

CROSS EXAMINATION

BY MR DANK:

[32] Q Are you the only aquatic biologist who looked at this property as an employee of the Army Corps of Engineers, to your knowledge?

A To my knowledge I am.

Q Your testimony is that the first time that you were asked to look at it was on the 5th of January of this year, is that correct?

A In a capacity to determine if it was in fact a wetland, that is correct.

Q Now who specifically asked you if you would make this determination?

A Mr. Richard Sides of the General Regulatory branch. He came over to our office and he said, I would like you to go on a field site inspection and meeting with me on the 5th of January. He went to my supervisor and it was arranged to [33] go on an on-site inspection.

Q What time did you go to the site?

A This was in the morning, nine or ten o'clock roughly.

Q Did you drive there?

A Yes, we did.

Q Then you subsequently got to an airplane and you flew over it, is that correct?

A That is correct.

Q What time did you conclude your inspection of the property?

A I believe the flight was concluded approximately 2:00 P.M. on the afternoon of the 5th of January.

Q How long would you say that your actual physical inspection of this site took place?

A Five minutes.

Q Five minutes?

A Yes.

THE COURT: Are you talking about when you were on the land now?

A That was on the land.

Q (By Mr. Dank, continuing): Did you accumulate any samples while you were on the site?

A I did not ask permission to collect samples, no, sir. I did not accumulate any.

* * * *

[38] Q We have established that you do not have established that you do not have any positive knowledge about the shrubs and trees, is that not so?

A That is correct.

Q The only positive knowledge that you bring to this courtroom is that there were cattails, is that correct.

A That is so.

Q When Mr. Behringer was asking you about the period of time that it takes to develop a wetland you, I believe, characterized it as a rapid, is that correct?

A It can be rapid. If you get standing water you can get algae it can grow. That is an aquatic plant. You get cattails that come in rather rapidly in many cases.

Q Within a year?

A In some cases you could have cattails if you had an area that was flooded, if it was saturated that year, the following year you could start to get cattails. You will notice that on farm ponds they dig a farm pond and along the edges in a year, two years, you start seeing cattails along the edges of those farm ponds.

* * * *

[50] Q (By Mr. Dank, continuing): My question is, I am assuming that this is the property lying here just immediately east of Jefferson and south of Clinton Road; can you from that photograph [DX 26: xerox copy of 1940 aerial photograph] identify what use is being made of the property?

A The specific use?

Q Yes.

A Portions are divided off in rectangular type parcels. This is immediately east of Jefferson Avenue and based on the divisions I would believe portions are being farmed.

* * * *

January 15, 1977

[6] REDIRECT EXAMINATION

BY MR. BEHRINGER:

Q Mr. Harrington, did you visit the site of the land fill and the property involved in this litigation yesterday?

A Yes.

Q Did you attempt to conduct any studies on that site?

A Yes.

Q Could you tell us what results, if any, you may have found and how you found those results?

A We broke up into teams. One team walked the face of the fill and the second team walked, oh, approximately 50 to 100 yards from the face of the fill. We collected representative samples in the area or every different type of plant we could identify or that was different we col-

lected a sample. The samples are in front of me now.

We went, the first bag went from the [7] east side of the fill southward, and the second bag was along the south face of the fill.

MR. DANK: Would you go over that again. I can't write as fast as you can talk.

The first bag was collected where?

A The bag on my left—

THE COURT: Are those marked?

MR. BEHRINGER: No, they are not.

THE COURT: Let's mark them so we are not talking about bags on the right and left.

A I have them marked as Bag 1 and 2.

THE COURT: Would you refer to them that way instead of right and left.

A Bag No. 1 was collected on the east side of the fill, and the second bag was collected on the south side of the fill.

Q (By Mr. Behringer, continuing): Now with regard to Bag No. 1, how near to the fill were those samples taken?

A The samples were taken from right at the toe of the fill out, oh, approximately 10 to 15 feet. Whatever was at the toe of the fill we did collect. It was rather brushy in areas going through there and so you had to walk out a way from the toe of the fill to get through the brush.

Q What type of samples did you collect?

A These were samples that were above the ice and snow line.

Q Could you tell us what conclusion, if any, you came to or you [8] may have drawn from those samples?

A From the samples that were collected, I still determine that it's a wetland area.

Q Which samples support that determination, if any?

A Bag No. 1 and Bag No. 2.

Q Could you specify any particular items in the bags?

A In the bags we have—

THE COURT: Let's take them separately, if you will, please.

Begin with No. 1.

A Bag No. 1, the shrubs, shrubbery on the east side of the fill. Bag No. 1 the predominant shrubbery was a red osier dogwood and a willow, some of it was a pussy willow. Interspersed with that was cattail narrow leaf type, a small clump of broad leaf cattail, some phragmites.

THE COURT: How do you spell that?

A P-h-r-a-g-m-i-t-e-s.

Marsh grasses, numerous other vegetation.

Q (By Mr. Behringer, continuing): Would you specify the other kinds?

A I have a listing, a partial listing of the other kinds.

Q Would you please go through the list?

A On the east side there was a small amount of ash, some elm, red maple, cottonwood, spirea, carax which is a sedge, and [9] again, we still have the willows and red osier dogwoods.

THE COURT: Let me ask to be sure I understand.

The ash, the elm, the red maple, cottonwood and sedge would not be wetland?

A No, all of these are capable of living in either wetland areas or areas that are moist, damp and some are found only in wetland areas or wet areas.

THE COURT: Let's separate the ones that are only found in wetlands, if we can, it would be better for me.

A They are all a wetland type. They can all be found in wetlands. The cattail is definitely wetland. The marsh grasses are wetlands. The carax is a wet area vegetation type.

THE COURT: How do you spell that?

A C-a-r-a-x, I believe, if I've got it right.

THE COURT: What about red osier dogwood, is that primarily found only in wetland?

A It's an indicator of wetland conditions, along with the willows, the pussy willows.

THE COURT: The cims, the maples and cottonwoods, not necessarily in wetlands, is that correct?

A They prefer a moist soil. They can live in a moist soil, I will put it that way, and if you get it too moist they could die out, yes.

* * * *

[11] Q Now with regards to your walk along the east side of the face of the fill, did you see anything in the course of that walk which would conflict with your determination that this was in fact a wetlands?

A No, nothing really.

Q Now you testified that in addition to walking along the east side you also took a walk along the south side of the fill?

A Yes.

Q Did you collect Bag No. 2 during that walk?

A Yes.

Q What if anything, did you collect in Bag No. 2, if you can describe the particulars in that bag?

A Well, the bulk or just immediately as you made the turn and headed west there was a similar type environment. There was some red osier, the willows and I believe there is a stand of gray dogwood and then it opened up into a, well, wet night shade and a rose with the red berries, and then it opened up into an extensive cattail type wetland which was an extensive [12] cattail marsh.

* * * *

RE-CROSS EXAMINATION

BY MR. DANK:

[25] Q Did anybody try to determine the type of soil they were, the type of soil the samples were?

A I do not know if anybody did an actual determination. They appeared to be muck.

Q They appeared to be muck?

A Black organic decomposed plant matter.

Q Did that play any part in your passing judgment on this property being a wetland?

A No.

Q Not at all?

A The vegetation that was there was a wetlandish type vegetation.

Q Let me ask you this, witness, is it your definition of wetland that if there was water on it it's a wetland?

A If it is an area that is capable of supporting wetland vegetation it would be wetland.

Q Now in order to have property capable of that you would have to have water on it for some period of time, isn't that correct?

A Well, either water on it or a saturated soil for some period of time.

Q It's absolutely impossible to make the characterization of wetland of any property without having it, wet either through saturation or otherwise for some period of time, isn't that so?

A Some period.

[26] Q What period is important to you, witness, in making that determination?

A Wetland vegetation.

Q So if wetland vegetation can grow then that would satisfy your qualification or your classification, is that correct?

A If you are looking at a wetland, yes. If it has wetland vegetation it's a wetland.

Q You are looking at wetlands to define wetlands?

A I am looking at wetland vegetation.

Q If you can grow wetland vegetation in four months then four months is all you need to satisfy your definition of wetlands, isn't that true?

A Yes.

Q And that would be true as far as your definition will permit even though in its entire history it had never been wet prior to the six months.

THE COURT: I don't think he indicated that it could be done in six months. Perhaps you ought to make the example more in accordance with his testimony.

MR. DANK: He indicated a year for vegetation to grow.

Q (By Mr. Dank, continuing): Have you said a year?

A You could start a marsh in a year. If an extensive marsh is there it would take more than a year.

* * * *

[30] RE-DIRECT EXAMINATION

BY MR. BEHRINGER:

Q Can property described by a biologist as wetlands be farmed or used for agricultural purposes?

A Yes.

Q And if such a condition does happen, that is wetland's are used for some agricultural purpose, when the agricultural use ceases, is it possible that the wet, or that the lands would revert back to wetland status?

A Yes, sir.

MR. BEHRINGER: No further questions.

THE COURT: I have a question.

You said in order to be a wetland it had to be saturated or flooded for a certain portion of the year. Is there any minimum or maximum, minimum on that I should say?

A Well, it would be during the growing season which is usually your spring and summer when your plants put on growth for at least a period of a year and then depending on the vegetation that is there. It it's saturated for a longer portion of the year or its's flooded with six or eight inches of water, or ten inches of water, will determine what type of vegetation will grow there. Some may require saturation year round. Others only three or four months which is still, if the water that is needed for the plant growth but other plants, even [31] if they had much saturation would die out. There is many types of wetlands and it requires saturation for growth and reproduction.

THE COURT: Just let me ask you, since you said there were an awful lot of cattails here, how many months of the year would the cattails have to have a

saturated soil? How long can cattails remain if they don't have saturated soil, if you know?

A Offhand specifically I do not know that.

THE COURT: They could have a period when there wasn't saturation and still continue at least for a while.

A For a period of time.

THE COURT: Then they would require to be saturated again.

A Right, or if they got, they can die off, too, by having too much saturation. If you get inundated with water completely, three or four foot of water over them they could die. Then you would go to a different type of wetland vegetation, something that would be submerged completely or you could go to that.

THE COURT: Now you indicated that it is possible to farm land which in its natural state would be a wetland. Would there be a limitation of the type of crops that you could grow on that land?

[32] A Well, you would have to have a drainage system there of some type. You could grow wild rice or something like that.

THE COURT: In other words, you are indicating that you could farm it with a drainage system.

A There are many many areas that are drained and farmed.

THE COURT: But you couldn't farm it without some drainage, at least not in wet years.

A It would be pretty rough because, it would be wet for such a long period of time you could never to plant your crops. You could still harvest them.

* * * *

[36] DAVID A. ALLARDYCE

[Field Biologist for the United States
Fish and Wildlife Service]

was thereupon called as a witness herein, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION
BY MR. BEHRINGER:

* * * *

[43] Q (By Mr. Behringer, continuing): I believe you have pointed out the operation Forsight Dike on this exhibit [an aerial photograph dated September 9, 1974]. Can you point out approximately what area has been filled at the present time on this exhibit?

A To the best of my knowledge, the area that we observed yesterday that has been filled is approximately from this corner near the road, South River Road on across actually back over in this area, a line roughly like so.

Q Can you tell from that exhibit what type of characteristics we have within the filled area?

A Very briefly we recognize several classes of wetlands. These can be divided into sub classes. From aerial photographs we can tell or describe a general wetland class. From the water area that you can see in here we know that it's either a shallow water or deep water marsh depending on water depths. You can see the water in here almost to the Forsight Dike in blue patches. The blue patches of water are clearly obvious there, almost up to the Forsight Dike.

MR. BERHINGER: I am going to move on to another exhibit.

THE COURT: Or can we bring them back, if you like, either way. In other words, you can wait until they are all shown and have them again or ask the questions about the picture as you see one, whichever way you want to do.

MR. DANK: Why don't we let it go and [44] have him complete the presentation and then I will go back over them.

A Basically the same photograph. It's basically the same photograph showing a little more of the river to the north of this area.

Again, basically the same photograph. I probably should point out here, when I was talking about classes of wetlands before here, we can pretty much tell we have cattails in here from looking at this vegetation pattern. We have patches of open water.

This very light green material is an aquatic plant we call duck green. It's a species of plant highly used for migratory waterfowl, excellent food.

* * * *

[51] Q Now with regard to Station No. 1—strike that. What is your definition of wetlands?

A A wetland is, as the Fish and Wild Life Service defines it, is characterized as land where the dominating factor is water which determines the type of soil, and the type of plant, and animal communities that exist at the soil surface, and more specifically it could be described as land where the water table is at, near, or above the surface of the soil for a sufficient period of time in the year to delineate what types of plant and animal communities would exist or be able to exist under specific conditions.

Q How many different stations did you mark on your map as having stopped at?

A We had approximately 12 or 13, about 12 stations.

Q Speaking specifically with regard to each station, was each station a wetland in your determination?

A Yes, I would say so based on the plant associations that we saw there.

Q Conversely, would you have determined that any of the stations were in fact in upland or anything other than a wetland?

[52] A No. All of the plants, species of plants existing on the site are characteristic of a particular class of wetland.

THE COURT: What class or different classes?

A During our inspection of the site we could determine probably the major class of wetland out there would be

either a Type 3 which we call a shallow marsh or a Type 4, deep water marsh, depending on water levels.

Of course, this fluxuates periodically. In areas where you have your red osier dogwood, your willows, this type of shrub, this is another classification known as a shrub community, a shrub wetland.

Then near the road, on the east near River Road, the northeast section or area of the fill, there is an area in there that you could characterize, as I mentioned before, as basically very close to a wetland meadow type of situation, Stations 1 and 2 approximately.

And then as you go around to the south, proceed in a southerly directly then you get more into A, as I say, a Type 3 or Type 4 marsh which is, the predominant vegetation is your narrow cattail, phragmites, what we call a robust emergent type of vegetation.

Q Did you take any soil samples in the course of your walk?

A Yes, we did.

Q Is that soil sample or any of them here with you in court [53] today?

A We have the one sample with us today, yes.

Q Is that what we have marked as Exhibit No. 48?

A Yes, it is.

Q Would you describe what significance, if any, you attribute to that soil sample?

A Well, a colloquially term for this would be called, it's called muck. Actually, it's an organic type of soil, a peat type soil. It's highly decomposed and as such we are unable to determine the various types of aquatic plants that make up, that are characteristic and make up a soil of this type.

Q Is that soil sample consistent with the type of soil you would find within your definition of a wetland?

A It is one type of soil, yes, definitely.

Q Now in addition to offering testimony with regards to plant habitat and the soil, did you have occasion to observe any animal or wild life usage of the parcel?

A Yes, we did. At several stations along the course of our route we very definitely sampled muskrat lodge densities.

THE COURT: You sampled what?

A Muskrat lodge densities. We would stand on top of one lodge and we would count the number of lodges we could see within approximately a 40 yard radius and I think we did this in three areas. At one point we observed at least 13 lodges within a 40 foot radius, another point seven or eight, and [54] another one ten.

THE COURT: Do you have those marked on your map where you made those observations?

A I have them marked not on the map but on my notes at each station, your Honor, where they were seen.

Q (By Mr. Behringer, continuing): Referring to your notes, could you tell this Court which three stations you made these muskrat observations?

THE COURT: That's within a 40 yard radius.

A Yes, 40 yard radius.

THE COURT: 40 yard radius.

A Yes.

Station 9 I have muskrat lodges listed as numerous there. I did not give a number.

At station, what we called F 100, this was at a stake in that area, we listed eight to 10 within a 40 yard radius.

I have another note here somewhere that has as high as 13.

THE COURT: Stake F 100, is that on your map?

A Yes, I have it marked on the map.

At another station called the Grade Flag we observed seven to eight muskrat lodges within that [55] 40 yard radius.

Q (By Mr. Behringer, continuing): Mr. Allardye, do you recall—

THE COURT: I'm not sure if he is finished.

A There was one other station here where we had approximately 13. I believe it was Station 9 but I'm

not sure. I don't see it listed on here. It may have been Station 9, I'm not sure.

In addition to this we also observed the nests of what we call the long billed marsh wren and there were several of these throughout the course of our walk. They are difficult to determine the number on because they are camouflage with the cattails or attached to cattail material but these were numerous and, of course these indicate heavy use of this area by this particular species of bird which will not nest anywhere else but in this type of marsh situation.

* * * *

[57] Q Were you able to see muskrat lodges from any particular point on the toe of the dumping?

A The only time I stood on the toe of the fill was in our proceeding to our area that we wanted to test. I did not see any, no, I did not see any muskrat lodges from that toe, standing on the toe of the fill.

* * * *

CROSS EXAMINATION

BY MR. DANK:

* * * *

[76] THE COURT: Just so I understand this exhibit.

A This indicates the low water datum here. This is the low water datum.

THE COURT: For this particular lake.

A For this particular lake, Lake St. Clair.

THE COURT: That's for this period of [77] time shown on this particular chart.

. A Yes, from 1920 through 1972. You can see how erratic the water levels, how much they fluctuate and as they fluctuate your vegetation patterns are going to change.

THE COURT: These are the high.

A Yes, these are the high peaks. They represent the high. The observation is above low water datum. This

is a good example right here, you see this fluctuation of water levels through the years and why vegetation patterns change because of the erratic movement and this is why your shorelines are not static on the Great Lakes. They cannot be managed in that way.

Q (By Mr. Dank, continuing): I am again going to show you Exhibit 22, not again, I am going to show you Exhibit 22 and ask you whether or not this was one of the survey maps that you studied to acquaint yourself with the facts prior to coming here?

A It looks very familiar, yes. The specific date is 1952. I would say that's entirely possible that this might be one of the surveys.

Q Now I am going to ask you if you can locate the subject property on this map.

A Approximately in this area.

Q Well, can you locate Jefferson Avenue?

A I believe this is Jefferson right here.

[78] Q Where would the property be, if you can identify it?

A Right in here. Just lakeward of this green area.

MR. DANK: I think the record should reflect you are pointing lakeward of a green area.

A Yes.

Q (By Mr. Dank, continuing): What does green area mean?

A Generally a green area means forested area.

Q Woods, right?

A Right.

Q Mature trees?

A That is correct.

Q So the map which was compiled in 1952 and I believe says is based upon photographic information obtained-topography by plane table surveys 1952, so the pictures were '51, and plane surveys in '52 would indicate what with relation to a marsh area, a wetland and this particular property?

A This would indicate that the property in question is indeed a wetland.

Q Show me the property again?

A Right here in front of this green area.

Q Isn't it true, witness, that the property lies alongside Jefferson Avenue and is this piece in here?

A No, I am talking about the area that is being filled presently.

Q That's how you know it, you know it to be east of this red [80] line, that is, east of Jefferson?

A Judging by the proximity of South River Road also and from what I saw out there yesterday, I would say yes.

Let me have a pencil here and I will show you exactly where I am. Right in there. That's the area I understand to be the present fill area and as such it's a wetland. There is no question about it.

Q I wonder if you will tell us—

THE COURT: Maybe he could put his initials there in case somebody else draws on there.

MR. DANK: Put your initials alongside. Put it on the north of Clinton River there alongside of your mark.

Q (By Mr. Dank, continuing): Now let's take a look again at Exhibit 20 and see if you can tell us what the water levels were in the years 1951 and '52, the years that the data was compiled to make this chart?

A In '51 and '52, you were up approximately 575.7 feet which would be, again, about 4.7 feet, something like that, above low water datum.

Q Do you know what the level was in 1963 when it peaked out and reached its 100 year high?

MR. BEHRINGER: Excuse me.

Your Honor, I am going to object to that.

[81] MR. DANK: '73, I'm sorry.

MR. BEHRINGER: That question, again, is over testimony of counsel when it peaked out in the year.

THE COURT: Don't we have some exhibit here that has '73?

MR. BEHRINGER: I think it would be more correct that we put on a hydrologist. I would have one. I understand they have one. Rather than take these questions from a man from the United States Fish and Wild Life Service, I think it would be more correct that we put on a hydrologist.

THE COURT: Let's put the exhibit on. He wants to ask him a question about his expertise. We don't want to call this man back.

As a matter of fact, all the exhibits ought to be marked and received if they are official exhibits and not have this time wasted.

Obviously this witness isn't going to know when it was the highest but he wants to ask him a question about the effect of it.

MR. DANK: Do you have an Exhibit with '73 on it. This one goes from '72 to '74.

THE COURT: It skips '73?

MR. DANK: Yes.

MR. BEHRINGER: Your Honor, I would offer that this witness may not be competent to answer [82] questions with regard to high water mark.

THE COURT: He isn't going to be asked about whether it was or wasn't the high water mark. But he can surely be asked about the effects of it and whether the variations are significant. That's what I assume the purpose of these questions are. The charts will tell us when the high water marks were. I don't expect him to keep this information in his head.

MR. DANK: Mr. Kalt do you have the exhibit?

MR. KALT: This is from '75 to '77.

MR. DANK: Do you have something with the year '73 on it?

MR. KALT: You are requesting something of this nature?

MR. [BEHRINGER]: My problem is, your Honor, I feel that Mr. Dank is proving water datum through an expert witness on the premise that he is going to be ask-

ing him subsequent questions. I think it would be more appropriate to offer testimony as to the high water marks on one exhibit compared with this other exhibit from somebody qualified in those areas.

THE COURT: I will overrule your objection. If we had a pretrial in this case they would all be exhibits and we could use them. No one is going to come [83] in and testify that these official lake survey water heights are incorrect.

We ought to have a stipulation of what they are so we would know whether they were. We haven't had a pretrial so we can't get all these things that are disputed resolved. We ought to have a stipulation when the dike was built and things like that so we don't have to ask witnesses questions about it. Whenever it was built, it was built. That's what I hoped you would do yesterday is to reach some stipulation on some of these things to shorten the time.

MR. BEHRINGER: I understand that the witness wants to, or the Court wants testimony on the importance of fluctuations.

THE COURT: If it's going to be meaningful, it ought to be the kind of fluctuations that everybody admits exists. That is not a question in dispute.

MR. BEHRINGER: No, that's my whole point.

THE COURT: Then give the witness something he can tell me.

MR. DANK: This is Exhibit 52.

THE COURT: Do you have any objection to Exhibit 52, Mr. Behringer, which is United States Great Lakes-monthly levels of the Great Lakes?

[84] MR. BEHRINGER: If this is what was just presented, no objection, your Honor.

THE COURT: It may be received.

Q (By Mr. Dank, continuing): Witness, is this identical to the chart that you have been using known as Exhibit 20 with the exception that it does have the year '73 through '75 described thereon?

A Very similar, yes, I would say.

THE COURT: The other one was folded so he couldn't see it had the other lakes on it but it did.

Q (By Mr. Dank, continuing): Looking at Lake St. Clair for the year 1973, can you tell us how 1951 and '73 compare?

A Comparing '71 and '73?

Q I'm sorry, '51, 52 and '73, how would you compare those years?

A Of course, both high water periods but the years '73, '74 are slightly higher by maybe, it could be a foot perhaps, maybe not quite a foot. Both well above low water datum.

Q Could you say from looking at this map that the years 1973 and '74, the years—

THE COURT: Let's point to Lake St. Clair not Lake Erie.

MR. DANK: I'm sorry.

Q (By Mr. Dank, continuing): '73 and '74, '51 and '52 and 1929 are singularly the highest levels recorded in the 20th century on this graph.

[85] THE COURT: Better not say the 20th century because the other side has 1900 to 1919.

Q (By Mr. Dank, continuing): So it would be 55 years, is that correct?

A I would say those are the three high points, yes, no question about it from observing this chart.

* * * *

[96] Will a muskrat live in his hut for more than one year?

[97] A Yes, I would say definitely, as long as the primary food supply, which is cattail primarily, would remain in sufficient quantity.

Q How deep was the water where you broke the ice and went down and sampled the soil?

A The initial sample, the first sample we took which is the one we have in court today from our group, the water was frozen completely down to the soil and we

picked the soil out and squeezed it between our fingers, and we could tell it was saturated all the way down as far as we sampled.

THE COURT: How deep was the ice then?

A Well, the ice, maybe two or three, four inches thick, I would say.

Q (By Mr. Dank, continuing): Were you able to determine what the average level of the water was on this site?

A The only thing I can say is the samples we took, the ice was from two to four inches thick. That's about all I can testify to.

Q Do you have any information indicating that the water was ever more than four inches deep on this site?

A Yes, we do. We observed high water marks on the trees, the soft maples, cottonwoods and it appeared to be at least a foot above the ice.

* * * *

[111] Q How far is this property from the edge of Lake St. Clair at its nearest point, to your knowledge?

A About how far is the property or the fill site?

Q The fill site, well, the property itself, as it's marked in red, the nearest point to the lake can you figure out what that is?

A I don't know. It would be a half mile, maybe.

Q Pardon?

A About a half mile, maybe, three quarters of a mile.

What's the scale of the map here?

Q 600 feet.

A One inch equals 600 feet. You've got easily six inches there, that's 3600 feet, you are over half a mile, half to three quarters of a mile at this distance from here. However, not from your source of water in here.

THE COURT: By source of water in here what do you mean?

A The direction that the water would come, possibly come or could, not the only way but predominant.

Q (By Mr. Dank, continuing): We are talking of seiches now?

A Yes.

Q You think a seiche would come from this body of water up into this property?

A I think it would influence it, yes.

Q The wind would, you would have to admit, the wind would have to be coming from the southeast?

[112] A I would say either southeast or northeast.

Q Coming from the northeast would—

A I think possibly, in my mind, as I say, I'm not a hydrologist, a wind either from the northeast or from the southeasterly direction I think for a sufficient period of time and strong enough could cause a seiche of some magnitude.

Q I am confused.

A minute ago you said the wind from the northeast would move this water which is south and east of the property onto the property in a seiche?

A A seiche is not a current.

Q It's wind?

A No, it fills the water levels up along the entire lake shore. If the whole area is to rise then certainly if this area is lower and it appears to be so, then the water would flow and take the path of least resistance.

THE COURT: Through the canals and channels?

A Certainly.

THE COURT: Because the shoreline is three feet higher.

A Yes.

THE COURT: Or whatever?

A Yes.

Q (By Mr. Dank, continuing): Witness, would it not be a fair [113] statement then to say that if the lake level, either through a seiche or through its—whatever its level is at a particular time were to influence this land, then whatever the level of the lake is would have to be higher than the level of the property, isn't that true?

A I would guess. I think so, yes.

Q Do you know what the level of the property is?

A Not specifically, no.

Q You don't know whether or not the lake influences any water on this property at all of your actual knowledge, do you?

MR. BEHRINGER: Objection, your Honor.

I think he has indicated through the culverts of the Clinton River, through the canals and through Lake St. Clair. The question is argumentative.

THE COURT: I think the question has been asked and answered.

A I said twice before and I hold to that, Mr. Dank.

Q (By Mr. Dank, continuing): Explain to me how you can know without knowing what the elevation of this property is?

A I don't know of any other sources where the water would come from.

Q You don't?

A Lake St. Clair being the dominating factor, in my belief.

Q Whae other sources have you explored?

A In my opinion that one source is enough.

* * * *

[116] Q I am trying to establish when the water is at a level with the lake and can be influenced by the level of the lake.

A Fine, but we are talking about a wetland situation. The water doesn't have to be above the soil to have a wetland [117] situation. As long as the soil is moist you have a wetland.

Q Witness, I wonder if I can get the answer to my question.

Looking at Exhibit 34, would you say that this is identical to Exhibit 8 except this has some drawings that were put on there earlier?

A It looks very similar, yes.

Q Referring to 574.81 which is here, is that correct?

A Yes.

Q In other words, for the surface water to be influenced to this point by the lake, isn't it true that the lake would have to be 574 feet to get the water to this level?

A I would agree to that. I think so.

* * * *

[119] FRED F. SCHLEY,

was thereupon called as a witness herein, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

[120] BY MR. BEHRINGER:

Q Mr. Schley, are you familiar with the area that we have been discussing today?

A To the point of 16 years residence right next door to it.

Q Do you have a common name for this area?

A Well, we refer to it as the Vershave Marsh.

THE COURT: When you say you reside next to it, where are you referring to?

A Within a quarter mile.

THE COURT: Where on that map that is next to you?

A Where is Jefferson Avenue here?

We live just this side of Metropolitan Beach, two streets this side towards Detroit. In other words, that would be south of Metropolitan Beach. It's Harrison Township.

Q (By Mr. Behringer, continuing): Mr. Schley, have you ever had occasion to personally visit the Vershave Marsh during the course of filling operations?

A On one occasion, yes.

* * * *

[121] Q Have you ever seen the area you know as the Vershave Marsh used for agricultural purposes?

A No, I have not.

Q Would you be able on that map to indicate the area you know or you are referring to as the Vershave Marsh? Can you point it out to the judge?

A This is the construction zone so planned, is that correct?

Jefferson Avenue goes along here. Is this the property in question, this red line?

Q I asked you the question. I am really not—are you familiar with that map or able to describe the property?

A This section from approximately this line on over is what I referred to as the Vershave Marsh.

Q You are talking about an area that is both presently unfilled an area that is filled?

MR. DANK: Counsel is leading the witness, Your Honor.

THE COURT: I recognize he is.

A To answer your question, that's true.

Q (By Mr. Behringer, continuing): Have you seen any agricultural use of the area you have referred to as the Vershave Marsh in the last 16 years?

A No, sir, I have not.

Q Could you describe what use, if any, that land may have been [122] put to, to the best of your knowledge?

A Well, what we refer to, again, as the Vershave Marsh has been trapped for muskrat, also you will see in the early part of the spring and early summer a great deal of carp being speared by bow and arrow and this goes on all through the marsh area.

Q Would that spear fishing or carp fishing or the muskrat fishing occur only in periods when the lake is at high levels?

A In the 16 year period that I have lived there I have seen this spear fishing by means of bow and arrow going on every year.

THE COURT: He is asking you during the whole summer.

MR. BEHRINGER: No, I meant that was the answer I was searching for, your Honor. Thank you.

Q (By Mr. Behringer, continuing): Do you happen to know the names of any individuals who are actively trapping muskrats on that property?

A Yes, George Hauser traps muskrats.

Q Is there anybody else?

A Ralph Kent may have some traps in there. If he does not this year, he has trapped it in the past.

* * * * *

[123] CROSS EXAMINATION

BY MR. DANK:

* * * * *

[125] Q By Mr. Dank, continuing): Is there a drain, if you know, without reference to what its name is, at the southern most end of this property, the fill property in question?

A There is a pumping station down at that far end, way on this end which would be the south end, and there is a drainage ditch along there, yes.

Q Would the uses of the marsh that you have described, would they have been made south of that drain essentially?

A No, that is not correct.

Q North of that drain?

A North and east of it.

* * * * *

[126] Q You don't have any knowledge of anybody ever using this property for agricultural purposes is your testimony, is that right?

A That is correct.

Q Mr. Hauser didn't tell you that he farmed this property, did he?

A No, he did not.

My only experience with the marsh, other than the 16 years, some 25 years ago I hunted duck in that marsh. That was the only time I had personal experience with it.

Q Can you tell us of your own knowledge that any of the uses that you have described, namely, the trapping of muskrats, the hunting of duck or the spearing of fish has

taken place specifically within the red line boundaries made on Exhibit No. 37?

A Yes, in this area back here particularly and down in this corner here.

THE COURT: The most southerly portion?

A That is correct.

* * * *

[128] VERNON B. LANG,

was thereupon called as a witness herein, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BEHRINGER:

Q Would you please state your name?

[129] A My name is Vernon B. Lang.

Q Are you presently a fish and wild life biologist with the United States Fish and Wild Life Service?

A Yes, I am.

Q What is your present capacity and role with that agency?

A I work as the assistant or first accounting supervisor in the East Lansing Field Office, Division of Ecological Services, Region 3, United States Fish and Wild Life Service. I work primarily with Federal projects, that is, flood control projects, power plants, navigation projects and I also get involved in Section 10 and Section 404 permits as well as the NPD Permit Program.

Q Would you describe what the NPD Program is?

A NPD Permit Program is the National Pollutant Discharge Elimination System. It's the old Section 13 of the Rivers and Harbors Act of 1899 that was transferred to EPA by Public Law 92.500 in 1972 and has been subsequently taken over by the State of Michigan. It deals with the point source discharges of pollutants into the nation's navigable waters.

Q Do you have any role with regard to habitat preservation?

A Yes. That's the program in the Division of Ecological Services which basically revolves around habitat preservation. We get involved primarily through the Fish and Wild Life Coordinating Act. We are the coordinating agency with other [130] Federal and State agencies.

Q Did you view the parcel of land involved in this litigation with regards to that role?

A Basically, yes, through the Coordinating Act the Corps of Engineers asked us to take a look at it and I did view the site.

Q When did you view the site?

A I viewed it, I believe, January 11th, Tuesday of this week, with a helicopter trip and I was present at the site yesterday for field inspection.

Q Did you walk through the area yesterday?

A Yes, I did. I was with a group that walked through the area basically along the edge of the fill.

Q What, if anything, was your conclusion or determination of this area? What were the results of your walk, if anything?

A I concluded the area in question is a wetland. I would say that approximately 75 to 80 percent of the perimeter of the edge of that fill is situated on a cattail marsh. The remaining portion of it is on a shrub type of wetland, shrub swamp and a portion, in the northern corner, appears to be a wet meadow type of a wetland.

Q Would you be able to say that you can visibly see muskrat habitats from the very toe of the fill area?

A Yes. I counted several muskrat lodges near the toe of the fill. In fact, in one case there was some fill coming onto [131] the edge, appear to be coming onto the edge of a muskrat lodge.

Q Would it be your testimony that the fill activities were in effect covering up habitats of muskrats?

A Yes, I would say that would be the case.

Q Did you see any other impact on the wild life in the area?

A Well, most of the impact that I could tell was on the vegetation systems. The fill is covering up what is basically a wetland system and turning it into a terrestrial or upland system.

* * *

CROSS EXAMINATION

BY MR. DANK:

[134] Q Do you agree with Mr. Allardyce when he says that in his opinion this marsh has been here 20 or 30 or 40 years?

A I would say basically, yes. There is only one additional thing that Mr. Allardyce didn't bring out.

The marsh, the wetland area up in this section here is what we term a deciduous swamp composed of red maple, dominated by red maple and a shrub underneath which is red osier dogwood. Both of them wetland plants. I would guess those trees, judging by the size of them, are probably in excess of 20 years old, I will say it that way, and probably older, much older.

THE COURT: So from that you are saying that you conclude that it has been a wetland that long.

A In this portion up in here near the Clinton River Road, the trees, you have a complete canopy of red maple and underneath the canopy the shrub layers are dominated by red osier dogwood.

Q (By Mr. Dank, continuing): Are you saying the cottonwoods have been there for 20 years or more?

A There is some cottonwood up in that area near those houses.

Q Dogwood, I'm sorry.

A The area I was talking about, I was speaking particularly about the red maple.

Q You are saying that red maple is a tree that only grows in a wetland?

[135] A I am saying when it grows, it generally and almost specifically is found in a wetland situation. When you find it growing in that situation with the other components with it is definitely a deciduous wood swamp.

Q It can live on the fringe of a wetland without being in the wetland, can't it?

A Pardon.

Q It can live on the fringe of the wetland without being in the wetland, can't it?

A There you get into the problems of where do you draw the line between the edge of the wetland and the edge, and the pick up of the upland, true upland site.

Q Where do you draw it, witness? Would you note the last red maple and draw the line there?

A No, I would draw the line somewhere where I would pick up a true upland community. I didn't see any at that site.

Q You did not see any at that point?

A I said I did not see the upland community at this site.

Q In other words, where the vegetation completely changes?

A True.

* * *

[144] EUGENE JAWORSKI,

was thereupon called as a witness herein, and having been first duly sworn, was examined and testified as follows:

* * *

[145] DIRECT EXAMINATION

BY MR. BEHRINGER:

Q Would you please state your name?

A My name is Eugene Jaworski.

Q Could you please indicate your present business or place of business and capacity at that place of business, if any?

A I am employed at Eastern Michigan University in the Department of Geography and Geology, it's a joint department, and I am an associate professor.

Q Do you have any, could you state the extent of your education?

A I received my Ph.D. from Louisiana State University which is renowned as an international coastal studies institute. They have done research all over the world sponsored by the O&R monies.

I spent one year at Texas A&M University in their Department of Geography where I did some [146] research on the erosion of the Great Lakes which has very extensive salt marshes behind here and here on the Great Lakes. I worked on the St. Clair Delta and maped that delta. We have done a dredging study protecting polluted dredge spoil lines. I am currently putting together a manuscript on the shifting of wetlands in the Saginaw Bay area. You are familiar with the article in the Michigan Academician concerning the marshlands of South-eastern Michigan.

Q I show you a document I have had marked as Exhibit 54, is that the article you were just referring to?

A Yes, it is.

* * * *

[158] (By Mr. Behringer, continuing): Now are there many wetlands in the Great Lake basin or specifically the Lake St. Clair basin?

A Yes. The Lake St. Clair Delta is a very extensive wetland.

Q With regard to the Clinton River Delta, are there many wetlands there?

A There were originally, yes, sir, but through development and erosion we've got just a small area south of the Clinton River left. It's that area west of Black River and south of the bend in the Clinton, that is the only area of intact wetland left in the lake, in this particular area.

Q Are you familiar with the United States Army Corps of Engineers wetland definition, fresh water wetland definition?

A Yes, sir.

Q Pointing to the area which is a red box and framed in two corners by Clinton River and the Black Creek on Exhibit 37, would it be your opinion that this is in fact a wetland?

A Yes, sir.

MR. DANK: Your Honor, you are talking about the legal definition or the Corps definition. I think that is within the province of the Court. That is the decision the Court has to make. I think this witness [159] can testify to facts but I don't think he can testify as to whether or not it fits into the description.

THE COURT: I will overrule your objection. I think if he is familiar with the Corps of Engineers definition he can testify whether it meets that definition. I think you can cross examine as to the basis of it.

A I would say that the area, because it was originally covered, at least sometime in the past and in some places today by aquatic vegetation, and I would include cottonwoods, certain dogwood species, the red ash and perhaps even more important a certain sedge, carax species in particular that grows right at water level and, and then going into deeper water, the cattails and bulrushes at this area, it has wet soils that are at least seasonally inundated and it supports aquatic vegetation. So under normal lake levels this is a wetland. This is a marsh.

* * * *

[160] Is carax spelled c-a-r-a-x?

A Yes, sir.

Q That is one of the items you just referred to as being a wetland type of vegetation?

A Yes. It's very likely that that species grew right in the area, right in the border between the shrubs and the deep water marshes.

Q Now can a wetland be put to agricultural use?

A They are. Under low lake level conditions the farmers will try to extend the limits of their cultivation under such conditions, yes, sir.

Q Can a wetland be recaptured when the agricultural use has ceased?

A Under some circumstances if agricultural means just pasture or moving of marsh grass for bedding or cattle feed then there isn't any problem, which is true in the St. Clair Delta area where they mowed certain areas or pastured cattle under low lake level conditions. If it's developed and the farmers have thrown up an earthen dike as in Monroe County and Tuccola County then, of course, the area is effectively sealed from the lake or river.

THE COURT: I think he wants to know, if you farm it, don't dike it and farm it in the years when the lake level is low, and the lake level comes back.

A Sure, the aquatics will grow in the open field, sure they [161] would.

Q (By Mr. Behringer, continuing): That occur even if drainage ditches were dug to an effect dry out the land during the low water period?

A If the drainage ditches do not have any effect on the water table and do not impose physical barriers, yes, the vegetation would move right into the flooded and inundated areas.

Q Do wetlands ebb and tide with the rise and fall of water tables and contiguous bodies of water?

A Yes, this is the thrust of the study that Professor Raphael and I are doing now.

Q Is it true that Lake St. Clair has a cycle eight to 20 years of highs and lows?

A Those fluctuations which may be described as cycles, they are not regular though, as you know, there is some variation in that cycle but it does indeed rise and fall over the years, yes, sir.

Q And would the rise and fall allow the wetlands to vary in degree in the nature of wetland characteristics?

A The changing of the water table, which is a major parameter or water level is associated with the shifting, lateral shifting of wetland lakeward or toward the river

during a low water period and inland during high water period.

* * * *

[164] [Q] So what I am interested in knowing is what data was used to change the 1873 map to allow you to end up with this representation in the area of 1973?

A In large part this is the basis for the 1873.

THE COURT: This, you mean that exhibit, Exhibit 53?

A Exhibit 53 [U.S. Geologic Survey Map: 1873] represents the basis for the 1873 map and photography, aerial photography, black and white, at a scale of one to 6000, extremely detailed, was used to create the map of 1973, plus some very general field observations. We did not work in the area specifically. We drove past it. We had no reason to work this area in any real detail.

* * * *

[171] THE COURT: As far as you are concerned, is there any significant difference between your diagram No. 2 and that '68 map?

A No. I think the boundaries of that '68 map, that is the landward boundary of the wetland conform very closely to this map.

THE COURT: There is really no significant difference?

A No. The little wooded area appears to be a filled area because it's irregular in shape and it looks like some brush or trees have grown up on there.

Q (By Mr. Dank, continuing): Referring now to page 306 [of PX 54], the bottom paragraph, I'm sorry, the second from the bottom paragraph that starts in the middle and says,

"An analysis of the coastal land use in 1973 during record high lake levels reveals that the only significant area of intact wetlands is within the inter-distributary basins of St. Clair River Delta and a small portion south of the Clinton River, Figure 2."

Is that a correct statement?

A Yes sir.

Q Referring to the map which you see immediately to your right, I believe that is Exhibit 37, can you tell whether or not the [172] shaded areas in here represent the lands that had been filled to your knowledge, in the Clinton River basin?

A The areas in orange?

Q Yes?

A Have they been filled by man?

Q Yes?

A Most of the areas that are occupied by finger lake developments and Metropolitan Beach area were formerly wetlands and have been filled, yes, sir.

Q You go on to say at this time the marsh of Lake St. Clair represents only some 5000 acres. Urban expansion in the Clinton River Delta and linear settlement along the lakefront is clearly evident.

Is that what you are referring to?

A As well as the encroachment from the west here as delimited by that red polygon.

Q What encroachment are you speaking of? You are saying there was some encroachment from that?

A You can certainly see it on both that map and you can see it on this map that the development is extending eastward and southward.

Q You are talking about residential homes?

A Yes sir.

Q Let me ask you now at this point, do you know whether or not this filling has had any affect on the other lands surrounding [173] the wetland?

A I would suppose that the filling promotes development, if you have areas that have been filled and developed, it increases the property values all along this lake because other areas may be developed also then.

Q Would the filling change the configuration of the existing land?

A It would do that and it would also deprive the fishes of Lake St. Clair of their food resources. We have a very unusual lake here in Lake St. Clair.

THE COURT: What you are really asking him is, as I understand it, does the filling along the lake increase the height of the water from the part where it's still swamp?

A I don't think it's very appreciable. That is not a problem. The problem is the destruction of the marsh and the wetland in terms of fish populations offshore as well as the esthetics.

Q (By Mr. Dank, continuing): You go on further in this paragraph and say on Harsens Island much of the lower portion of interdistributary marsh has been diked and planted with corn and other crops to attract migratory water fowl.

What effect did the diking have upon the land on Harsens Island?

A You take an area that is seasonally inundated and you dike it and pump water out in the spring, as they do, to lower [174] the water tables so they can plant their crops and allow them to grow during the growing season, you simply remove from the area of coastal wetland a certain portion of habitat.

As I mentioned earlier, Lake St. Clair is a very productive lake fisheries-wise next to Lake Erie and the fish feed in large part on the organic materials brought in from the marshes into the lake. There is a very high turnover rate of water, meaning the fish that live in the lake must get their food from somewhere and they get it from the wetlands. If you develop a wetland or you dike it, you effectively are removing this particular habitat from the food chain. That's one problem.

* * * *

January 17, 1977

[2]

RALPH KANDT,

having been first duly sworn, was examined and testified upon his oath as follows:

DIRECT-EXAMINATION

BY MR. BEHRINGER:

Q Would you please state your name, for the record?

A Ralph W. Kandt.

Q And are you presently a member of the Lake St. Clair Advisory Committee?

A I am.

* * * *

[4] Q Have you physically been in the geographic area outlined on that map [Exhibit 37]?

A Yes.

Q Could you explain for what purposes, if any, you've been in that area?

A I've been familiar with the complete area on that map for most of my life, as far back as I can remember, which is—I—which I was probably seven years old in the area. I remember a good deal of things about the area.

THE COURT: Why were you there, what was the occasion?

A Yes, all the time.

THE COURT: For what purposes?

A Well, when I was old enough, I trapped in there, in the area, other than that, we went there, my father hunted off the lake, off the property in the whole area. I'm familiar with what the area looked like before Metropolitan Beach was there, before any lagoons were dug. I'm familiar with the whole area before Venetian Drive was on the edge of one marsh.

I've been in the area for 30 some years.

Q Are you familiar with the wetlands in that area, south of the Clinton River?

[5] A I am.

Q Could you approach Exhibit 37, and point out the wetlands area, approximately, to this Court?

(Witness approaching blackboard.)

A Everything in here.

THE COURT: I can't see you, unless—

A All of this white area, here. Into here, down—

THE COURT: Into where?

A The red area outlined in red.

THE COURT: Edge of that northerly portion?

A Down across here, and all the way over to Jefferson, all the way down to here.

Q How would you describe that area, plant-wise, to the best of your knowledge?

A It's a marsh. It was solid in this area that I'm speaking, here was solid, cattails, and then above that area, you had what we refer to as saw grass, it grows in a clump, and if you walk through there, it's hard knobs where the grass grows, and where it fades from this kind of thing into a regular field, field like grass.

Q Now, when was the first time, if any, that you may have physically been in that area? By that area, I mean the portion of the area within this red square on Exhibit 37 [6] you've described as a wetlands?

THE COURT: He described it as a marsh.

MR. BEHRINGER: As a marsh, I'm sorry, your Honor.

A About 15 years or so.

Q Could you approximate the year, specifically?

A 1960.

Q Have you been in those areas since 1960?

A I have not, in this. I have not. In this area here, I have not walked in there personally. I trap this area here, bordered by this canal. I had this whole section, the lease on this, for ten years, approximately. George Helzer had this. We saw each other back in here. Now, from right here, you're—the high bank goes back to the marsh. What I was trapping here, he had the very same thing over there, and from here you could see everything that was there, without walking in there.

Q On Exhibit 37, could you show the Court the area that you trapped?

A Yes, this whole white area, adjacent to this property, east. 298 acres.

THE COURT: You're indicating you trapped an area to the east of the canal that goes—shown as a canal there, going up to the north and from [7] there over to the canal or stream on the next—to the subdivision, and from Clinton River, showed down to the top of the orange area?

A Right.

THE COURT: Then you're indicating you didn't trap to the west of that, but you could see from along that canal the area that was being trapped to the east

A Yes, your Honor.

Q What if anything—

THE COURT: Let me get the years. What years did you trap in there, or have that lease, approximately?

A I would say, from around '62 or '65, until last year.

THE COURT: Thank you.

Q What if anything did you trap in that area?

A We trapped muskrat in there, some coon, what was in there, we have fox in there, we have raccoon in there, possum in there, muskrat in there, any of the species, animals in the general area we have in there.

Q How many muskrat might you have trapped there, annually?

A It varied each year, according to the weather conditions, and the availability of food and so forth that—it could vary anywhere from 500 to over 2,000.

* * * *

[9] Q Have you ever seen any crop, like corn, or sugar, beets, or potatoes growing in there?

A No.

Q Now, in addition to trapping that specific rectangle on Exhibit 37—

THE COURT: Excuse me for a minute. Do we have one of those overlays?

MR. BEHRINGER: Yes, we do, your Honor. Let's use one here, and then I'll have him draw where he

trapped and where he's drawing the lines.

THE COURT: There's a grease pencil, here. You'll have to tape it to the blackboard, but—I think you can tape it carefully.

Will you put your initials on the bottom, sir, and then show us the area that you—first of all, outline the area that you trapped.

Would you put your initials on that, somewhere?

Now, will you outline the area that you showed me, before by hand, where you say the marsh extended to the west of where you were, draw it to the best of your ability.

* * * *

CROSS-EXAMINATION

BY MR. DANK:

[14] Q When you draw the line across the red square, here, were you drawing the high water line or low water line?

A I was drawing what would—you could determine as an in between line, in regards to the periods in which you mentioned.

Q In other words, you're telling us, now, that the northern most line on this area traversing the red section is a middle ground of some kind?

A Yes.

Q I see. Tell me this—

THE COURT: I don't think he finished.

A —in drawing the line, I was drawing the line that was over the years that was predominantly wet. As the water goes up in a very high period of time, you would have water animals across that line. But they would not be there all the time.

Q Um-hmm.

A But the line that I drew, there was always cattails there.

Q Okay. Now, I've noticed that you indicated some part of this red area, sticking up and going up the—

against—South [15] River Road is not in the marsh—road that you observed, is that a fair statement?

A Yes.

Q And the lines intersects this little finger that reaches up and touches South River Road, just about the middle of the line where it turns the road, and at its southern most point, is that a fair statement?

A Yes.

Q Now, how many times did you tell us that you've actually walked the property in question?

A I've only physically walked the property a few times.

THE COURT: Where, when—are you excluding when you are trapping it, or—

A Well, he mentioned the property in question. I understand that to be the area within the red diagram.

Q Yes.

THE COURT: Okay.

A Yes, I have only been through that property physically a few times.

Q When is the last time you were on that property?

A Three years ago.

Q Okay. And the time before that, do you recall when you were on it, then?

A It would have been sporadic. If I was in there, maybe it wasn't every year, maybe every other year, and it was only [16] for maybe one time, going through there.

Q Just walking?

A Sometimes I came in when the weather was bad, and we had our first ice, we could not get back in with the boat the way we usually did, and sometimes we parked on Jefferson and we walked through there to gain access, to get back into where I was trapping.

Q You mean you walked across this property?

A Across this property to get back in there, where I was trapping.

Q So the only time that you've been on it, would have been times that you walked across it, is that correct?

A That's right.

Q The last time would have been about three years ago?

A Yes.

Q Could it have been two years ago?

A No.

Q Could it have been four years ago?

A It could have been four years ago. It was not within the last two years.

Q Mr. Helzer you say worked and trapped the land adjacent to the farm you leased?

A Yes.

* * * *

[29] DONALD H. RIELLY,

having been first duly sworn, was examined and testified upon his oath as follows:

DIRECT-EXAMINATION
BY MR. BEHRINGER:

Q Sir, would you please state your name, for the record?

A Donald H. Rielly.

Q Mr. Rielly, are you familiar with the area outlined on Exhibit 37, which is posted on the blackboard to your immediate right?

A I am.

Q You may want to come forward and take a look at it.

A I am, sir.

Q Now, have you ever had occasion to trap muskrat in any portion of the area outlined on Exhibit 37?

A I have.

Q Would you please come forward and take this red pen and for the purposes of showing this Court and the defendants, outline the area that you have trapped in.

* * * *

[31] Now, Mr. Rielly, you indicated an area here that is south of the bend in the Clinton River, and it moves westward toward the Jefferson Avenue, have you trapped exclusively within those two lines that you have drawn?

A I have, all the way over to Jefferson.

Q Have you trapped on—

A Pardon—

Q I'm sorry, complete your answer.

A To Jefferson, Yes.

Q Have you trapped on either side of those two lines?

A I might have sporadically, but this is my general area, in here.

Q Could you indicate to the Court, the period of time you began to trap that area?

A Approximately 1937 to about 1960.

Q Did you trap—

A I'm not a trapper by trade, I'm just a trapper that puts out 50 to a hundred traps. In other words, I wouldn't be going in here like a professional, this is a kind of a spare time—you know, not only did I trap, but I hunted, also, ducks, when the high water level, by walking in most of the time with boots. I—

Q Have you ever had to wear your boots—strike that question.

[32] Have you ever seen the area within your trapping indication, used for agricultural purposes?

A No, never.

Q You've never seen a furrow laid through that area?

A No, sir. I never seen any equipment or anybody back there.

Q Have you ever seen any crops, such as corn, or sweet potatoes?

A No crops of any description.

Q Now, looking east or with regards to the portion of the area east of your most eastward line, have you ever seen any portion of that lake land used for agricultural purposes?

A No, sir.

Q Now, with regards to the lines that you've—it's actually the westerly lines of the two lines you've drawn, could you describe the nature of the land between the westerly line and Jefferson Avenue, to the best of your personal knowledge?

THE COURT: Show him what you're referring to, now.

A You're talking about in here, sir?

THE COURT: Not the land you trapped, but the land north, and east where you trapped.

Q North and west.

THE COURT: North and west, I misspoke myself. Thank you.

[33] Q Do you know that area to be an area which is presently being filled?

A I do.

Q Could you describe the area to the best of your personal knowledge, before it was being filled?

A Well, I'd say it—roughly, about 70 per cent had to be in cattails in there.

* * * *

[46] GERALD F. MARTZ,

having been first duly sworn, was examined and testified upon his oath as follows:

DIRECT-EXAMINATION
BY MR. BEHRINGER:

Q Please state your name, for the record?

A Gerald F. Martz.

Q Mr. Martz, where are you presently employed?

A I'm employed by the Wildlife Division of the Department of Natural Resources, in Lansing.

THE COURT: That's your part of the State of Michigan?

A State of Michigan, yes ma'am.

THE COURT: I assumed that.

[47] Now, are you familiar with the area of land involved in this litigation?

A Yes, I am.

Q Have you physically been on the site?

A Yes, sir.

Q Could you specify the days that you were on the site, if any?

A We flew over the area in the helicopter on the eleventh of this month, and we physically walked the area on the fourteenth.

Q Now, have you come to a definition of what you as a biologist would call this land?

A Yes, sir.

Q What would that definition be?

A It's a wetlands.

Q What is the function of a wetlands in—

A Wetlands have many functions. They are producers of wildlife, and they all are the producers of the fish population. They also control and help the regulation, nutrients entering the state surface waters, trap sediments, and a variety of other uses. A wetlands are very dynamic in nature. They're constantly changing. They're not a stable thing. This is primarily in response to water conditions, which are both changing, perhaps daily, certainly seasonally, and even on a year-to-year basis. [48] Particularly here on the Great Lakes, they respond to long term fluctuations in water levels, and water conditions, and in fact, the inland wetlands away from the coast also are dynamic in change.

Q Would you find different zones or vegetation in a wetlands area?

A Yes, we did. Those zones in my opinion are—could in all be typed as various classes of wetlands, and they range from meadows to deep marshes, to open water.

Q Now, will certain plants and—characterize the zones of vegetation with regard to the transition between lake and upland?

A Yes, they do. The meadows in particular were characterized by the presence of sedges and blue joint grass. The sedges being carrots, in this particular case. And I think you have to understand, that of course the deeper marshes, cattails appear to be the dominant or deeper portions of the marsh, and these are all wetlands categories.

Q Would you—

A The wetlands themselves, then are a transitional area between the open waters of the lake and the uplands itself and as such, the—they literally fill all the area between the extremes of lake level fluctuations here, on the Great Lakes.

* * * *

[57] ROSS E. POWERS

having been first duly sworn, was examined and testified upon his oath as follows:

DIRECT-EXAMINATION

[57] BY MR. BEHRINGER:

Q Would you please state your name?

A Ross Powers.

Q And what type of Government are [you] employed with, the Federal or the State?

A I work with the United States Environmental Protection Agency, Region 5, Michigan Department Office, located in Grosse Ille, Michigan.

Q Are you familiar with the area involved in this litigation?

A Yes, I am.

Q Have you been physically on the site?

A Yes, I have.

Q Could you state the dates, if any, you were physically on the site?

A January 11, we did a perimeter survey, by car. Also, we overflew the site by helicopter, and again last Thursday, we visited the site.

Q Now, you visited on Thursday, did you walk on about or adjacent to the fill on the property involved?

A Yes, I was with Hal Harrington and we walked at the foot of the fill. I've got a sketch of the—where we did walk and we also collected samples of predominant vegetation as we walked through that area, and I personally collected two points source samples.

THE COURT: Two what?

[59] A Two specific samples of a specific location, rather than a general transect, and I brought them up here on the stand. It's items 50 and 51.

Q Did you take those samples back to the DNRA offices and study them, after you conducted your on-site investigation?

A Yes, we did.

Q Now, perhaps before I go in that direction, could you indicate with some—

A I can describe—

Q —could you tell us where you obtained the samples?

THE COURT: You said you drew a little map, yourself, right

A Yes.

MR. BEHRINGER: Let's mark it, maybe we can make some copies.

A I directed the samples at these two locations, because they had easily identifiable landmarks. First location was directed underneath telephone poles that run parallel to South River Road. And there's one pole that stands about ten feet away from the present edges of the field. And I collected samples of the emerging vegetation in that area and I also spudded a hole through the ice in that area and collected a sample of ice and the frozen dirt underneath the ice.

Q Could you tell us how deep the ice was, at that spot?

[60] A Yes, the ice at this spot was half inch thick and thin I spudded it, broke at the interface of the ice,

and the frozen soil. And I chopped about three inches into the frozen soil with the spud, and extracted a sample of that.

Q Do you recall which bag, which exhibit contains the samples you obtained at the site?

A At the telephone pole was Exhibit 51.

Q Did you conduct any studies on Exhibit 51?

A Yes, sir, we looked at the ice out in the field and recognized that there was some green collard plants called duckweed. We took these back to the labs, and looked at them under the microscopes, and they were—the primary material that was there was Lemnatisulca, that's a specific kind of duckweed. It forms a kind of net, but it grows just underneath of the water in quiescent areas.

Q Did you find any other types of duckweed?

A Yes, sir, associated with that same sample, we found some floating duckweed, some Lemnaminor, found some snail shells and one was the pond snail, called physa, and we also found sedges, blue joint grass, and an ash sampling. In addition, we found in the washings from the soil various pennatae diatoms, meaning elongated instead of rounded, and we found crustacean called a scud, it's an anthropod (sic).

THE COURT: Scud is just like it sounds, s-c-u-d?

[61] A Right.

Q What if anything can you tell us about these findings; are they indigenous to wetlands?

A The significance of course is that there was a total absence of upland variety.

Q Does either Lemnatisulca or Lemnaminor have any role in the ecological system?

A Oh, most definitely, yeah, the—these duckweeds are fed on by ducks, and they also provide habitat for microorganisms; plankton and so on. They're important as fish food for the fry that are spawned in this type of area in the spring.

Q Did you hear Dr. Jaworski's testimony on Saturday?

A Yes, I did.

Q Would this role of various Lemnas, would this role of the various Lemnas you have described as being called plankton, be in fact the function that Dr. Jaworski was testifying about, as regards to this marsh furnishing of food supplies for the fish population of Lake St. Clair?

A Yes, I think that is what he was getting at. This is part of the ecology of Lake St. Clair.

Q Similarly, did you just hear Mr. Martz testify that various products of the marsh are in fact the ultimate food source for fish, in Lake St. Clair?

A Yes, they contribute to the food source of Lake St. Clair.

* * * *

[65] Q Now, at your first location, the telephone site, isn't it correct, there's also a fire hydrant to the west of that telephone pole, right along South River Road?

A I didn't observe one, no. So, I don't know.

Q You state you only had to spud through half inch of ice, rather than two inches of ice at the telephone pole site?

A There was a half inch at the telephone pole site; two inches at the "do not anchor site".

Q Now, did you take Exhibits 52, the contents of Exhibit 52, that sample at the no anchor site?

A No, it was Number 50.

Q Number 50, I'm sorry.

A I took Number 50 at the "do not anchor site".

Q 51 at the telephone pole?

A Right.

Q What analysis, if any, did you do of the sample in Exhibit 50?

A I did the same type of analysis. We looked at it under the microscope, there were diatoms again, the same three types. The—I didn't find very many of the Lemnaminor duckweed at this point. I don't know why. The Lemnatisulca was very abundant. And of course, there was burweed, one of the emergent plants there.

Q Did you find any upland plants?

A No, this particular site didn't have any upland plants at [66] all. It was right where the almost continuous cattail marsh started and proceeded to the south.

Q You heard the testimony of Mr. Harrington, Mr. Allerdyce, Mr. Lang, Mr. Jaworski, and Mr. Martz. Would you have anything to add to that testimony which would not be cumulative of something we already have heard?

A No. I think that's about all I can add to their testimony.

THE COURT: How deep did you get your sample? How much soil?

A How much earth?

THE COURT: Yes.

A I directed about three inches down on each site with the spud. I did notice that someone else had spudded a hole in near the "Do not anchor sign" and had removed about six inches of material. I assumed a couple inches of ice and four or more, and that water had flowed back into that hole. And the water was, from the top of the ice down to the bottom, I just estimated, about six inches down.

The significance here, I think, is, that in both locations, the soil was frozen solid and could be chopped out, and unfortunately my evidence melted. But I did bring the ice and the frozen soil in.

Q Would you have to go any deeper to satisfy yourself soilwise that this was in fact a wetlands?

[67] A No, sir, because as far as I could tell, it was saturated enough to freeze. There was water just six inches down and I assume that from vegetation and whatever, that this is—would be in the summer time free water, surface water.

MR. BEHRINGER: No further questions.

THE COURT: Thank you.

CROSS-EXAMINATION

BY MR. DANK:

* * * *

[69] Now, you say that you saw a fire hydrant?

A Yes, sir.

Q Was it out in the fill?

A In the marsh, yes.

Q Were there streets around the fire hydrant?

A No, sir.

Q Sidewalks around it?

A No.

Q How about the manhole that you saw, were there any streets around that, or sidewalks around that?

A No, sir.

Q They were out into the field, too, then, is that correct?

A That's correct.

Q How many fire hydrants did you see, altogether?

A One.

DR. ELWIN EVANS

having been first duly sworn, was examined and testified upon his oath as follows:

THE COURT: Would you be seated there, please.

Do you have a middle initial that you use, or don't you use one?

THE WITNESS: I usually don't use it.

THE COURT: All right.

MR. BEHRINGER: Your Honor, Dr. Evans' resume—

THE COURT: I have it, here.

MR. BEHRINGER: Thank you.

DIRECT-EXAMINATION

BY MR. BEHRINGER:

Q Dr. Evans, would you please state your present place of employment?

A I work for the state, in the Department of Natural Resources and the Environmental Protection Branch Bureau.

Q Do you have a specific duty with the Environmental Protection Bureau?

A Since coming to the Bureau in 1972, I've been performing studies in the lakes and streams to determine the impact [75] of man's activities on the aquatic system.

Q You do not work in the same division as does Dr. Gerald Martz?

A That's true.

Q So specifically—well, he works in wildlife, you work in the water quality division, is that correct?

A Yes.

Q Are you familiar with the land involved in this litigation?

A Yes, I walked the area at the face of the fill. And the first time I saw the area was January 11, at which time I flew over it in a helicopter.

Q Have you come to a definition as to the character of the parcel of land involved in this litigation?

A I have.

Q Could you state that definition?

A Wetlands of high quality.

THE COURT: Wetlands of what?

A High quality, desirable type wetlands.

Q Could you elaborate what you mean by—

A Of all the classifications that previous witnesses have given, this falls in get a very high degree of productivity of fish and other type animals. This is a sh. marsh, the type—

CROSS-EXAMINATION

BY MR. DANK:

[78] Q Mr. Evans, let me ask you this question. How do you feel [79] generally about filling operations?

A Well, I think if you meet the requirements set out in law and its judged that in fact this has some redeeming value to fill, to do something worthwhile for the public, and the trade off between the resources you therefore displace, and the benefits accrued by the public; I'm not going to jump up and down and scream. I say these are the things you are replacing, how are we going to mitigate this particular displacement of the public resources. That's all.

Q By and large, you are opposed to filling operations, are you not?

A If I was going to make a judgment under the Public Act 17, which says we shall conserve and protect the resources of the state, I would have to make conservative judgment, until it is actually demonstrated that in fact no damage is going to occur. For if the damages do occur, that they will benefit the public greater, will be accrued.

* * * *

[84] GEORGE SHORT,

having been first duly sworn, was examined and testified upon his oath as follows:

DIRECT-EXAMINATION

BY MR. DANK:

* * * *

[85] Q Now, what if any position do you hold with reference to the Riverside Bayview Homes, Inc.?

A I am president of the Corporation.

Q And for what period of time have you been president of the Corporation?

A Since the Corporation was organized in 1960.

Q I see. And what if anything is the business of Riverside Bayview Homes, Inc.?

A I didn't—

Q What is the business?

A It was formed specifically for this particular subdivision. Developing this area, this particular subdivision.

Q Is Riverside Bayview Homes Inc. a closely held Corporation? By that I mean, does it have a few stockholders?

A Five incorporated.

Q Tell the Court who the shareholders are?

A Well, I have 300 shares; and then very close friend of mine and my original partner by the name of Dr. Leaver owns 400 shares; and my ex-wife owns 100 shares, and Mr. Biederman and Mr. Melvedt owns 150 shares each.

MR. BEHRINGER: What is that last name?

MR. DANK: Melvedt, M-e-l-v-e-d-t.

[86] Q (By Mr. Dank, continuing): What if any connection does this Corporation have to the property which is the subject matter of this litigation?

A This is its entire asset.

THE COURT: Can you clarify something? The property you are referring to is just the property that is outlined in red on the map?

A Yes.

THE COURT: It's that shape?

A That's Riverside Bayview subdivision, and we call it, the Corporation, Riverside Bayview Homes Incorporated.

Q How did the Corporation acquire the property?

A Well, it acquired it—a—originally, my—I had a partner, and we were called Distin & Short. And we started acquiring this property in 1952.

THE COURT: Excuse me a second.

(Pause in proceedings.)

A We started acquiring this property in 1952. And I was responsible, basically, for acquiring the property. We bought it and settled the different lots from the 46 different people. That was quite an undertaking within itself. And the doctor, through my doctor influenced the

doctor to put his money into it. And then, in 1960, we incorporated and brought other partners in.

Q Well let me see if I can go back over your testimony a [87] little bit. Some part of this parcel then, you acquired in individual lots, is that correct?

A It was all acquired from—practically from individual lots or groups of lots.

Q Is it not true that some part of this property is acreage and has not been platted?

A The 20 acres to the east of Macomber, as you see it there, in red, that is the 20 acres that separate from the subdivision.

Q I'm going to show you what has been previously admitted as Defendant's Exhibit Number 39, and I'll ask you if you can identify that, as the plot of property from which certain lots have been acquired?

A That is the subdivision of land.

Q Now, how did the property get from Distin & Short to Riverside Bayview Homes, Inc.?

A A—the new partners felt it would give us a little protection to incorporate it. And my partner bought me out of Distin & Short in 1957. And he was a little run short of investment, so I followed through and found buyers to acquire his stock, because he felt that he didn't have time to spend with this, and it had always been my dream, to develop this property. So I had continued on then to be president.

Q Was Mr. Distin part of the original incorporators of [88] Riverside Homes?

A Yes, he was.

Q And other people subsequently acquired his stock, is that correct?

A That's correct.

Q And that accounts for other shareholders that you now have in the Corporation?

A That's correct.

Q Would it be a fair statement to say that Distin & Short transferred the titles to the property to this Corporation?

A That's right.

Q Now, does this Corporation have any ongoing business, which produces income or profits or income which to pay expenses?

A No.

Q I'm sorry?

A All the money, the expenses of this Corporation, we have to assess the stockholders, for the actions and any expenses involved.

Q Now, you've testified that you began acquiring this property, in what year?

A Approximately 1952.

Q All right. Have you been familiar with the property since that time?

A I sure have.

[89] Q Have you made efforts to develop this property?

A We've been trying to develop it ever since the day we started. We had progressed to different ideas; and the most important thing to me was to develop the land to the highest and profitable use, and to serve the community and the people of that community.

Q Now, what if any—let me just ask you this, if you have been trying since 1952 to develop it, why haven't you developed it?

A We had different setbacks, and we went along.

Q Can you tell us what the setbacks were?

A That's going to be a very long story.

Q Make it as brief as you can.

A Well, for instance, Jacks Street, we asked to have that vacated.

THE COURT: What street?

A Jacks Street, because we had planned on bringing a canal. We had right-of-way over two, ten acre pieces, next to it, and we had planned on coming in from Black River with a canal. And when we went to ask for Jacks Street to be vacated, person by the name of Mr. Bittner owned 22 acres behind us, and he objected to us vacating

it, due to the fact that we would land lock him, and we've offered to put—give him the right-of-way through the 20 acres. But in the Court proceedings, they decided to not vacate [90] Jacks Street, and then I heard, oh, about—

Q Don't get into what other people have said to you.

Let me ask you this, does this property, so far as you know, does it require sewer and water, in order to develop residential lots?

A Yes, it does.

Q Has the sewer and water facilities been available to this property, in order to develop it?

A They weren't available, until—what year was it, Fred?—1959.

Q For purposes of the record, I'm going to ask you to testify to things you have memory of.

A I couldn't give you an actual year, but that was what was holding us up, was the sewers. And the sewers are now available.

Q Does the township of Harrison require that elevation of the lots be raised, in order to develop this property?

A Yes, they do.

Q Have you been able to get the necessary fill material to raise the elevation?

A Yes.

Q When was the material first made available to you?

A The latter part of this year, or of last year. I believe it was December, early part of December or latter part of November.

[91] Q Had you tried in years past to acquire fill material for the lots?

A Been trying for the last ten years. I've been patiently been waiting for the dirt to be available.

Q Let me ask you this, since sewer and water has become available, has any part of this subject property been improved with the installation of sewer and water lines?

A Yes, there has been several new houses built in the immediate area, in the last two years.

THE COURT: I think he's asking you, in your particular subdivision, the part you own.

A Yes, the entire Macomber Street.

Q How about sidewalks?

A Sidewalks were down on Macomber Street, as far back as 19—when the subdivision was originally subdivided.

THE COURT: When was that, by the way?

A Well, accordng to this plat, if I can see right—

THE COURT: I can see it.

A Whenever the plat was put on record.

THE COURT: Right. Do you have that date, Mr. Dank?

MR. DANK: 1916, February 10.

THE COURT: 1916?

MR. DANK: 1916.

[92] THE COURT: All right. Do I take it, the water was there before the sewers?

A Yes, the water was put in about the same time as the sewers, because we had to dedicate an easement at the end of our property for the sewers, and the water to be put in, because Helzer was vacated. Helzer has been vacated and we dedicated the lot across the end of our subdivision for the water line and the sewers.

THE COURT: But had there been water lines or water in there a long time ago?

A There was water, but they were smaller lines on Macomber, and the rest of the subdivision at the end.

Q Were the water and sewer lines, both put in with special assessment proceedings through counsel?

A This I couldn't answer. My associates took care of that mostly.

Q All right. Now, are you familiar with the construction of the Foresight Dike on this particular property?

A Yes, I am.

Q Did you have any contact with anyone, either from the Corps of Engineers or the Township, concerning the construction of this dike?

A I had no connection with the Corps of Engineers. I was approached by the Township official, and—

Q Would his name be Glascock?

[93] A Yes, Mr. Glascock.

THE COURT: Glascock?

MR. DANK: Yes.

A And he wanted permission to put the dike across our property, and of course, I objected very strenuously. And I told him, I'd be happy to allow him to put the dike around our property. And he said to me, well, George, he said, you'll have to pay for the bulldozing if that's what you want. I says, that's all right. I'll pay for the bulldozing. What would this amount to. And he told me, estimated about \$5,000. So I agreed to the bulldozing.

Q Now, is this one of the expenses that you've already testified that would have required an assessment of the shareholders?

A That's right.

Q Did you discuss, and were they willing to pay it?

A Not at that particular time. I felt it was so essential, I planned on putting the money up myself, and if the association refused, I mean, the Corporation refused to pay for it, I would have paid for it out of my own pocket.

Q But the members of the Corporation did what?

A Well, what happened, one of the members come back from Florida and it was conveyed to him that the people at the end of this where these houses was, it was so essential to them, that we agreed to allow the dike to be put across [94] the end of our property, which would be a lot shorter, and so they held a meeting, and they all voted against me that this was essential, that they protect these people. So I went along with the Corporation and agreed to let them put the dike across there.

Q Was the dike construction then, at the expense of the Corps of Engineers, as opposed to the expense of the Corporation?

A Expense of Corps of Engineers.

Q Now, in your communications with Mr. Glascock, were you ever led to believe that there was any prohibition against putting the dike around the perimeter of your property, if you were willing to pay?

A There was nothing more discussed. Once my associates insisted on it, I assumed there might be some negotiation between—

Q I don't think you heard my question, Mr. Short. Was there ever anything said to you by Mr. Glascock, indicating that if you wanted to pay for it, that you could not have the dike around your perimeter?

A No, no.

Q Mr. Short, in the years that you have assembled and owned the lots and property in question, have you been familiar with its physical characteristics?

A I didn't understand your question.

[95] Q Have you been familiar with the physical characteristics, have you been on the land, seen the land?

A Oh, yes, continuously.

Q Can you tell us what you know about the land, so far as it being wet or under water?

A Well, occasionally, there's a little water in some of the low spots, wherever land—wherever there are some low spots. But when I go back in 19, either 54, or 55, while I was still Distin & Short, I had the property mowed with the tractor, and a mower, and we mowed the whole entire area at that time, and then we burnt it all, and we had to get a permit from the Fire Department to burn it, and it was hot lather at that time.

Q Have there been periods of time when the land has been wet?

A Yes, there's been periods when it was.

Q Can you recall specifically what times?

A Well, it's hard for me, I don't have the details completely.

Q Mr. Short, have you had any conversation with the Township officials, regarding the question of whether or not you were obliged to fill this property?

A We received at letter from them instructing them about three or four months ago. The Township passed an ordinance requiring us to fill out lots or fine us \$500, and I think—maybe I have one of those letters, here.

* * * * *

[113] FRED R. BIEDERMAN,
having been first duly sworn, was examined and testified upon his oath as follows:

* * * * *

[114] DIRECT EXAMINATION
* * * * *

BY MR. DANK:

Q Are you connected with Riverside Bayview Homes, Inc.?

A Yes, I am the secretary.

Q For what period of time have you been a secretary?

A I would say about 1965.

Q Have you held any other office in the Corporation?

A As I recall, I was treasurer for a short time.

Q Okay. You are also a shareholder, is that correct?

A I am, sir.

* * * * *

[123] Q (By Mr. Dank, continuing): Witness, have you had any conversations with anyone from the Township concerning a permit, from the Township to fill this property?

A Oh, yes.

Q And can you tell me what the result of those discussions have been?

A We had a permit issued to us, for fill.

* * * * *

CROSS EXAMINATION

BY MR. BEHRINGER:

* * * * *

[131] THE COURT: Have you had any assessment on the real estate property tax assessment?

A It's never been brought up at a meeting that we object to it.

Q Did you testify that these assessments have been increasing?

A Did I testify to that?

Q Yes, sir.

A I have a report on that, yes.

Q Have they increased over several years?

A The assessments?

Q Yes, have any of the assessments of any local authorities increased over the last couple of years?

A Yes.

Q Dramatically?

A Dramatically.

Q Have there been a substantial increase?

A Well, from 187,380 to 200—from 1975 to '76.

THE COURT: Is that for taxes or evaluations—in other words, they increased from 187,380 to 232,777? Increase of \$45,397.

Q Was there any effort made to contest that increase with the [132] local tax authorities?

A No, they're not due, yet.

* * * * *

[137] Q Thank you. Now, what did you mean by original subdivision status?

A Original—well, the time I became involved in this property, I would say that it was high enough that we could have gone ahead and built on it.

Q That's your—excuse me—

A Pardon?

THE COURT: Excuse me.

(Pause in proceedings.)

THE COURT: Go ahead.

A Excavation from the basement would have brought us up where we probably wouldn't—requirement. Another plan incorporated lagoon in there, which gave us all the fill dirt we're required from the development of this site.

Q What original subdivision status were you talking about, if any?

A Well, the time that I became interested in it, it certainly [138]—whether it would be construed or wetlands, I doubt very much. I had never had that interpretation of it.

THE COURT: Had it been a subdivision, before?

A Oh, yes.

Q What do you base that response on, what knowledge do you offer to support your statement, that this had been a subdivision?

A Well, in the first place, I put an extreme value on property adjacent to water—

THE COURT: What causes you to say that it had once been a subdivision?

A It always was—

THE COURT: I—

A —because of recorded plat.

THE COURT: Was—

Q Was that the only basis you had?

A For construing it as—

Q —an original subdivision, or as having been originally subdivided?

A Yes, I would say that.

THE COURT: Were there streets and sidewalks in there?

A Yes, there were at the—I would say, the north end of it, and there was water in there, too—water, hydrants.

[139] Q Now, you stated that the Corps told you to put in the statement part of wetlands of Lake St. Clair?

A Right.

Q Is that correct?

A That's correct.

Q At this time, I show you stipulated Exhibit Number 4, do you recognize that at all?

A Yes, I do.

Q Is that in fact a reduction of a larger map that you gave to the United States Corps of Engineers in October of 1976?

A Yes, I believe it is.

Q Would you please turn to Exhibit 33 on your right, is this a similar side, original or copy of the document you gave to the Corps in October of 1976?

A It appears to be.

Q Now, with reference to either Exhibit 4 or Exhibit 33, do you recognize this statement here, and I'm pointing to—if the map corner is up—the upper left hand corner of Exhibit 33, is that your printing?

A Yes.

Q What does that say?

A No fill will be placed below the high water mark elevation 575.7; IGLD, in this area, and signed by myself, dated 10-22-76, and you know who put those words in my mouth?

Q Please tell the Court who put those words in your mouth?

[140] A Corps of Engineers.

Q By saying, put those words in your mouth, do you mean to tell the Court that as—between the Corporation —between the United States Corps of Engineers, there was a dispute as to portions of that triangle?

A A dispute?

Q Yes, sir.

A I don't know about a dispute; I don't think it ever been settled just what area we would—could not fill in, and this was taken down to them to determine whether they had jurisdiction over certain area and to magnify that, this—I was told to put on there and sign, which I

did. I acknowledge that I put that on there and signed it, not with any respect to being an engineer, because I'm not an engineer, but I put that on there as the suggestion of one of the Engineer's men.

Q Would it be fair—what would be fair to say, then, was there a difference of opinion as to what could or could not be filled?

A I think there's always been a difference of opinion, but I'm not a qualified engineer to know.

Q What was the difference of opinion, as you understood it, on October 22nd 1976?

A I think there was a question of whether jurisdiction went in that direction.

[141] Q Did the Corporation assert at all or portion of that triangular portion was in fact an uplands, which was without—of which the Corps was without jurisdiction?

A Mr. Melvedt and I walked over this area, and we took dimensions and put them on plan that we had, similar to the outline of our property and then compiled it into figures that this was eventually drawn from. And we —when we walked over this area, we assumed that that could not be construed as what was determined wetlands, because we were walking on it, and we repeatedly said, we don't know how it can, and it was accepted with this definition in there, in 575.7 IGLD. Was just a figure to me. I didn't know.

* * * *

January 21, 1977

[2] HARRY HELZER,

having been first duly sworn, was examined and testified upon his oath as follows:

THE COURT: Will you be seated there, please.

DIRECT-EXAMINATION

BY MR. DANK:

Q Mr. Helzer, how are you employed?

A Employed?

[3] Q Yes.

A I'm not. I'm retired.

Q How old are you?

A Seventy-five.

Q What did you do before you retired?

A I worked for the Metropolitan Beach.

Q For how long?

A Just before I retired, about eighteen and a half years.

Q What did you do before that?

A Farming.

Q Where did you farm?

A On Prentis.

Q Okay. Can you tell us what township that was in?

A Township?

Q Yes.

A Harrison.

Q That's in Macomb County, Michigan?

A Right.

Q You say you had a farm on Prentis Street?

A Yes.

Q Where is Prentis Street?

A That's about—between Jefferson and Prentis.

THE COURT: Off of Jefferson, in other words?

A Beg pardon?

[4] THE COURT: Prentis is off of Jefferson?

A Yes.

Q Is Prentis west of Jefferson?

A Um-humm, yes.

Q Is it north of the Beach Highway?

A North—yeah, it would be.

Q Okay. Are you acquainted with—let me ask you this, how long did you farm in that area?

A Well, I was about ten years old when we bought the farm. And we sold it about six, seven years ago; so we farmed it quite a while.

Q Did you begin farming there when you were ten years old?

A Oh, yeah, that's when we bought it.

Q Did you live on the farm?

A Yes.

Q How long did you live there?

A 'Till I was about 28.

Q Did you continue to farm after you—not

A —my dad did—I mean, but I worked in Detroit.

Q I see. Did you farm any other property, other than the property your farm owned?

A Yes.

Q Where?

A We farmed the property on the Metropolitan Beach.

[5] Q Property where the beach now is located?

A Right.

Q All right. Did you farm any other lands? Did you farm any other lands besides that?

A A—well, my dad farmed and then we farmed that, too, see.

Q I see. Are you familiar with the property that is the subject matter of this law suit?

A I am.

Q And can you tell us what your familiarity with it is?

A Well, well, when I was about ten years old, this property, I think that you're talking about, is, was—was farm land. They was—well, let me see, there was one, two, three, there was four farms right—this property.

Q Now, when you say this property, are you speaking of the property that is the subject matter of this law suit?

A Right, right, that's the property that we are talking about, on the north side of Jefferson, right.

Q North or east?

A Yeah, I—there was a big farm right on the—this property. The house was on one side of Jefferson and the building were on the other side, and Jefferson was just a dirt road, then.

Q You know who were the farmers that operated the farm at that time?

A There was the Sharezak (ph. sp.)—

[6] THE COURT: Do you know how to spell that?

A No, I don't, ma'am. They were living there, then. And then there was—Sharezaks, and then there was Hubbard (ph. sp.), had a farm there, too, right there, and then were was—and then—and then—that's the Verschave (ph. sp.) property, now. That was a big farm. Those people had, well, even the Sharezaks, they had a lot of cattle. They done a lot of farming there.

Q Have you ever seen crops growing on this piece of property?

A Yes, I did.

Q What sort of—

A I saw beautiful corn along that piece of property, right along, down to the drain, now, the south end of it.

Q Savan Drain?

A Yes.

Q You saw corn there?

A I sure did.

Q Can you tell us approximately when?

A Oh, I would say, World War I. Shortly after, in that period.

Q Did you ever have any occasion to do anything else on this property?

A Hay, cut hay, I did, yes.

[7] Q Did you harvest the hay yourself?

A Yes, yes.

Q For what years did you do that?

A I'd say '46, and then my dad, before '46, and then my dad before that cut hay, there.

Q For how many years?

A Maybe four or five years; I don't know how many. We cut a lot of nice hay, there.

Q You related to George Helzer?

A Brother.

Q Was George Helzer ever involved in any of the farming you described to this Court?

A Yes.

Q He assisted you in the farming?

A Yes.

Q What does your brother do, your brother George?

A He worked at the beach, too. He's retired, now. He's a mechanic at the beach.

Q Did your brother George have anything to do with catching muskrats?

A Yes.

Q Did he catch muskrats in and around this area?

A Yes.

Q Did he ever catch muskrats on this particular land?

A He did, at the drain on the other end, down where it's [8] low, there's a drain that goes through there, and he trapped there. I know. I think he trapped there this year.

* * * *

[13] THE COURT: Did you farm any of the part that is within the red lines?

A You mean in here?

[14] THE COURT: Yes. You, yourself, I mean, or your brother?

A Well, we farmed quite a lot of Metropolitan Beach property. This property runs down to the drain. The beach runs to the drain, and I think these people with this property, their property runs through the drain.

THE COURT: The property doesn't quite run quite to the drain. The testimony indicates it doesn't run quite as far as the drain. I think the testimony indicated that there are two ten acre pieces of property before you get to the drain.

Did you farm to the north of the drain, right up to the drain, at least—or did you farm south?

A South of the drain, north of the drain, we cut hay.

THE COURT: North of the drain, at least, once, you saw corn growing?

A I mean over a period of years, not just once. I saw beautiful corn there.

THE COURT: That was to the lake side of Jefferson?

A Lake side, yeah, right, right, right.

THE COURT: When would that have been, roughly, if you recall?

A I probably—was about 16, 17 years old, in that time [15] when they were really farming there, you know. But it's changed, now. I tell you. Of course, the water is a big problem.

Q (By Mr. Behringer) With regard to the water, have you ever seen this area when the lake levels have been high?

A Yes.

Q What happened to this area when the lake is high?

A Even where we live, you know, just a quarter of a mile, just across Prentis and Jefferson is just a little ways apart. And it's always—was—it's to my knowledge about seven years, she's up, once every year it seems to come up, and she goes back down again and everything would be fine and that's the way it seemed. But this last time, I never seen it that bad. Never.

Q Was the farming done when—during periods when the lake level was low

A Yes, but our farm, we farmed all the time, whether it was low or not, because we had good drainage. And now, your drainage is pretty shot out there, let's put it that way. You know, that is—

Q Not with regards to your farm?

A I mean, all of it. All the farms is pretty well shot, because when Metropolitan Beach pumped in, filled it all up, they changed the whole cycle of this property, with

our farm included. My brother had 20 acres, he's the [16] same thing, and it's just changing, changing in the last couple years. High water really did it.

Q Umm, okay. Do you know if your brother has caught any muskrats within the area of that red outline?

A Well, he did on the south end of it, 'cause it's here, comes down low.

* * * *

REDIRECT-EXAMINATION

BY MR. DANK:

Q Mr. Helzer, I wonder if you'd give us a brief description of what you understood the drainage to be, prior to it being changed by the filling of Metropolitan Beach.

THE COURT: Before they filled Metropolitan Beach?

A You see, there used to be a canal, been there for years, runs right up to this drain that we're talking about and it went right from there, right straight out to the lake. And when that did—it took care of a lot of this water, you know, what I mean. But since they pumped it in, they closed that canal down to the lake, dug a new one in from Black River, and the old canal where this property butts up with this goes in there, butts up against these people's property, and it's made a difference. [17] THE COURT: Where did the old canal used to run? Can you show me on the map?

A If we can see it.

THE COURT: It's not on there, but you have to tell me where you believe it would have been. Might be on some of the aerial photographs, the old ones, if we get back far enough.

A Well, here we are. And we're going to the lake. That would be right along the drain, here. Just inside—the drain comes down like this, and the old canal went right straight out to the lake, right straight down. It's still there, but they closed off the—down the other end.

They—the Huron, the park dug the—another canal in there, and it—it's working, but it ain't working like it did when the old one ran straight out. And that is the same drain that you're talking about ran right into the old canal. So, they shut it off down there and it made a difference.

Q Did he point out the area?

THE COURT: I couldn't really understand.

Q Would you tell us which way it ran across the beach?

A South from the drain. From your drain.

* * * *

[36] THE WITNESS: Right.

FRED BIEDERMAN

having been previously sworn, was examined and testified upon his oath as follows:

CROSS-EXAMINATION

BY MR. BEHRINGER:

* * * *

[39] Q Was the Corps going to tag line land within this area there that could be dumped?

A This area, it was my understanding was permissible if we maintained this figure, here.

THE COURT: Have you maintained the figure of 575.7?

A And on reviewing last night, what I had, my recollect was that I used this figure 575.7 here as probably being—'cause we walked over this area, here. Mr. Melvett and I walked over and we determined that that area would not come under the jurisdiction; that ours was over the jurisdiction because we walked on it. We didn't consider that as being wetlands in there. That's what the Corps asked us to do, determine what we consider—so that is how we arrived at this line, here. These

were copies that was given to me by the Corps of Engineers. When I got thinking farther on it, I think that is the point that I determined was dry land, so when this figure here was given to me, I referred to this, and I said, well, we walked in here; so I'm going to assume that it is correct. IGLD.

I don't know what that means.

* * * *

[51] HERBERT GLASCOW,

having been first duly sworn, was examined and testified upon his oath as follows:

DIRECT-EXAMINATION

BY MR. DANK:

Q Mr. Glasow, let us have your business address and your occupation.

A Building official, Harrison Township, 38151 L'Anse Creuse.

Q What period of time have you been a building official?

A Ten years, in February.

Q What are your duties?

A I'm in charge of building, zoning, and ordinances.

* * * *

[55] THE COURT: What did they do with that ditch at the time they built the dike? I didn't clearly understand what they did. You were there, I wasn't.

A They filled it up to form an earth dike.

THE COURT: In other words, they eliminated the drainage, and instead, they built an earth dike all along Jefferson?

A Correct.

THE COURT: And that was done by the Macomb Road Commission?

A By the Macomb Road Commission.

THE COURT: And that would have been along the entire east side of the parcel we're involved in here?

A And further south.

THE COURT: And further south.

A Right up to Metropolitan Parkway.

* * * *

[60] Q There's been no effort to reopen the ditch along Jefferson Avenue?

A No, there's been no request. I shouldn't say that, I've asked the county to remove that, but now they claim they don't have the rubber tired front end loader to remove it; but I had some of the dike moved up close to the pub which was pass Helzer, which was hazardous for people backing out of the pub. I had some of that removed.

[61] Q By pub you mean a tavern?

A The name is the Pub.

Q It faces Jefferson, it's north of Helzer?

A That's correct.

* * * *

[62] Q Were you given a design by the Corps, or was it your job to provide one to the Corps?

A Well, I think it was a combination.

Q Did you have any instructions from the Corps as to what your role or what the design would be that you would partake in?

A Only the elevation that it should be.

Q How about the direction or location on the property?

A They were going the shortest route they could go in order to protect the people within Jefferson and South River Road, because they were paying the bill.

Q Did you have any conversation with anyone from the Corps of Engineers about the possibility of diking a perimeter of this property?

A Yes, Mr. Price.

Q Okay. You are indicating someone in the audience, is [63] that correct?

A Correct.

Q But the gentleman's name is Price?

A Richard Price.

Q Do you remember when that conversation took place?

A Prior to building the dike.

Q What conversation did you have with him?

A If they would go to the outside perimeter of this area.

Q What indication did he give you?

A They would go the shortest route, because they were still paying the bill.

Q Was there an objection to diking the perimeter of this property?

A No.

* * * * *

[66] FITZ BRIDGES,

having been first duly sworn, was examined and testified upon his oath as follows:

* * * * *

[67] DIRECT-EXAMINATION

BY MR. DANK:

Q Mr. Bridges, would you give us your business address?

A 273 South Gratiot Avenue, Mount Clemens, Michigan.

Q Tell us just briefly how long you have been in the business of being a civil engineer?

A I started in 1946. Upon discharge of service, registered as a land surveyor in 1927. As a professional engineer in 1952. Practicing at that time.

Q Can you tell us whether or not your practice is confined itself to any particular geographic area?

A Southeastern Michigan primarily, Macomb County, Oakland, Lapeer, St. Clair County, primarily 95 per cent of the work is in Macomb County.

Q You've shown us in your resume that for some period of time you were a consulting engineer in the employ of Harrison Township in Macomb County?

A That is true.

* * * * *

[85] Q Can you tell us what the lowest point along—
are?

THE COURT: Are they all legible?

A I have one right—the elevations that we've shown in here are in the majority low elevations of 574, plus we have 574.45, 574.55, 574.54, 574.54—53—55—I think I averaged them out. I think it came to 574.6. The low was 574.45. Those are based on IG LD, International Great Lakes Data, furnished the bench mark by the Corps. We have titled our elevations into that bench marking.

MR. BEHRINGER: That's marked is it?

MR. DANK: I don't think it is.

A I saw a little tab on it.

MR. DANK: Here it is—okay. I'm [86] looking for Exhibit 52. This is it.

Q (By Mr. Dank, continuing): Have you seen Exhibit 52?

A Yes, I have.

THE COURT: I didn't get that, after you said—

A 574.6. Mathematical average, lowest elevation, I think, is 574.45.

Q Mr. Bridges, have you been on this property?

A Yes, I have.

Q Can you tell us what if anything this land exhibits by way of slope?

A Physically, it would be impossible for me to show any difference in elevations. Basically, it's very very flat.

Q From the levels that you've taken, can you give any indication as to whether or not there is a trend of slope from these figures?

A Basically, the trend, and this is through other work that we've done in the area, I mentioned that I have done work in the Saban land drain. The land drain is to the southeast, basically towards the Black River area, Jefferson Avenue, causes that artificially, that was built up. That's land across Jefferson Avenue is high—

Q All right. Now, from Exhibit 52, have you attempted to determine the number of times that the arithmetical means of these elevations would have been lower than the [87] monthly mean average as a result recorded on Exhibit 52?

THE COURT: You're talking about elevations of the south end of the property?

MR. DANK: Yes, yes.

THE COURT: Or are we talking about the south end and around the corner?

MR. DANK: We're talking about all of these.

A Using this—this being 52 ideological survey track using elevations as shown on that, as the monthly average water levels, for my determination, and it's—I don't have the tabulated figures of—that were presented yesterday, but these are strictly from the drawing, and so it's a little difficult to get it maybe 100 per cent. We try to be on the fair side, here. If you use the elevation 574.6 as an average, I counted 103 months which the monthly average, monthly mean average was over the elevation 574.6. That's 103 months since, including, 19—1898 to 1976 inclusive. 936 came out to 11.004 per cent. Say 11 percent of the time that the water levels are above 574.6. And 44 of those 103 months were in the last three years. I have a drawing which I marked it on, which I used, that shows possibly, graphically the figures I've given.

Q Have you computed how many times the monthly mean average [88] exceeded the lowest point that you found along the line?

A No, I have not. '74, '75, I don't have that. Possibly, I had taken another average figure before we took this elevation down to the south, and west, I used an average of 74.8, which we had at the north. 77 month or 8—two tenths, there made a difference of three per cent, possibly. If it went down another 1500th, it would be one or two per cent grade higher. If not—

Q Have you computed 575.7, which was the figure you used on Exhibit 4?

A 575.7 was a figure that was given to us as being the high water—575.7 is the high water mark, IGLD, and I put that, I put a line in my drawings that elevation 575.7. And at that time, I find that thirteen months of the 936 months are above the 575.7, again. Again the majority of those being in the last three years. High water that we've had in '72, '73, '74, '75.

Q Do you know what percentage that is?

A 1.39 per cent, 1.4 per cent.

* * * *

January 21, 1977 (afternoon session)

[65]

THOMAS P. GOUGH,

called as a witness on behalf of the Defendant, having first been duly sworn by the Court, was examined and testified on his oath as follows:

DIRECT EXAMINATION
BY MR. DANK:

Q Witness, will you tell us your occupation, please?

A I'm presently employed by the Macomb County Public Works Commissioner as more or less of a troubleshooter, and [66] I'll explain that. I am in charge of the program under Public Act 347. That's the Sediment and Erosion Control Act.

I also am responsible for all taps and crossings that are made related to Macomb County drains. I also am

responsible for any programs relating to the Clinton River that are carried out by the Public Works Commissioner, and in addition to that, I help the fellows in Parks and Recreation. That's the Parks and Recreation of Macomb County.

* * * *

[68] Q Let me just ask you this: Prior to going to work for the Macomb County Drain Commissioner—or Department of Public Works—excuse me—would you tell us how you were employed?

A I was employed by the United States Soil Conservation Service. That's a branch of the United States Department of Agriculture. My official title was District Conservationist. I was employed by the Soil Conservation Service from January 2nd of 1956 until July of 1974. During that time I was stationed first in Ann Arbor in 1956. Then I was stationed in Emmett and Charlevoix Counties from 1956 until 1961. In 1961 in March I was transferred to Mt. Clemens, and I worked in Macomb County—

* * * *

[71] Q (By Mr. Dank, continuing): During the period of time that you were assigned to the Mt. Clemens area, namely from 1961 until '75, did you have an opportunity to become acquainted with the agricultural areas of the county?

A Yes, I did because my main responsibility as a district conservationist was to assist land owners in solving problems related to soil and water and other resources. In order to do this, I had to learn very much about the area of Macomb County; well, not only agriculture, but the urban uses, too.

Q In your work with the people engaged in agricultural activities in Macomb County, did you have any experience with attempting to identify or classify wetlands?

A Yes, I did. One of our responsibilities related to wetlands pertained to a program that is called the Ag-

ricultural Conservation Program. Under the regulations of that program, which is administered by the Agricultural Stabilization and Conservation Service, was the handling of money, and this money was to be used to pay part of the cost of installing various conservation practices, and included in these practices were drainage measures, such as final drainage or ditching or land development, but anything related to drainage required [72] that we made a decision—that I made a decision in work that I did as to whether land was wetland, Class 3, 4 or 5, and on the referral from the A.S.C. I was required to state very emphatically that land was either wetland Class 3, 4 or 5 or it was not. If it was, we were not allowed to work on it for agricultural drainage. If it was not, then we were allowed to.

Q Do you have anything with you that establishes the basis for determining what classifications of wetlands were as they were defined by the United States Soil Conservation Service?

A Yes. I have some sheets here that define each of eight different classes of wetland.

Q Now, what are those sheets taken from?

A These were sheets that were developed by the Soil Conservation Service and the United States Fish and Wildlife Service.

* * * *

[81] Q (By Mr. Dank, continuing): Now, does this exhibit [DX 28] attempt to define Lamson soils?

A Yes, it does.

Q All right. Now, can you take us to the beginning of that definition and show us whatever this exhibit has to say about the characteristics of Lamson soil?

A Yes. Turn to Page 24 and the white sheets in the front. Did everyone find that? It's in the white sheets. All these soils are listed alphabetically. You'll see on Page 24 it says, "Lamson Series," and over on the right-hand side of the page about halfway down on Page 24, it says, "Lamson Fine Sandy Loam (zero to two percent of slopes)."

THE COURT: I see.

THE WITNESS: Now, that describes that particular mapping unit. Now, for a definition of the typical Lamson soil, you would look on the left-hand side of the page and read down through those two or three paragraphs. If you wish, I would show you what I mean. It says:

"The surface layer of a typical Lamson soil is black fine sandy loam about ten inches thick. The subsoil, about 14 inches [82] thick, is gray, very friable fine sandy loam that contains yellowish-brown mottles. The substratum is gray, very friable silt and very fine sand with olive and yellowish-brown mottles."

Then it goes on to tell you a little more about the soil, about it being nearly level, being poorly drained and the type of natural vegetation that you would expect on there and the uses that are made of this soil throughout the county. I may interject at this point that there are approximately 5,000 acres of Lamson sandy loam in Macomb County, and it's scattered in various parts of the county.

I might point out to you another place in this book that you can find out some more information if you turn to Page 72 and Table 4. It's an engineering table. Excuse me. Turn to Page 74, I believe. You'll have to go over it. This again is all alphabetical, but if you read about a third of the way down the page, if you read across the page following the titles that are listed on the top of each column, you'll see that you can find out an awful lot about this soil.

For instance, it indicates that the seasonal water table is less than one foot from the surface. This correlates with the written description [83] that said it's a poorly drained soil.

Q (By Mr. Dank, continuing): Now, let me just see—
A Yes.

Q —if I can interrupt you at this point.

A Sure.

Q Is that something that holds true even if it's not inundated periodically by water from a navigable body of water?

A Yes, sir. I can show you in this exhibit or in the field the same type of soil with these characteristics in Macomb Township and Shelby Township, which is somewhere around 18 to 20 miles northwest of this site.

* * * *

[85] Q (By Mr. Dank, continuing): So if I understand what you are saying, the impact of that is just as the soil will not drain itself well, it will not carry water from, say, the Clinton River to the center part of the parcel either?

A This is right. This is right.

Q So the influence of the water in Lake St. Clair and the influence of the water in the Clinton River will not impact this property substantially; is that a fair statement?

A As hydraulic underground flow, this is what I mean. I [86] will say this, that the weather conditions, the amount of precipitation that causes the lake level to rise also affects this area, the precipitation on the land, but this is a relatively flat area. It is poorly drained because of the nature of the soils, and if the lake levels are up, the effect that the lake level would have through Black Creek would be that this land could not drain, but it does not necessarily mean that the lake is going to back all the way up into there. It will only to the extent that it seeks its own level on the surface and adjacent to the drain and ditches, but not that it's going to flood out all over the land or flood out through the soil and come up. Water just doesn't do that.

Q Can you say, then, is this a fair statement, that the influence of either Lake St. Clair or the Clinton River would be that influence that it has by spilling surface waters onto this property?

A Yes, that's my personal opinion.

Q All right.

[110] Q And what is your opinion?

A My opinion is that this land could be classified at the [111] present time, the south end of the property could be classified as probably wetland Class 3, the north area, what they refer to as the 20 acres, would be in the middle type classification at this current time, but if we had had an extended dry spell and I were to look at it, I would make the decision that it was not wet.

Q When you're saying at this current time, are you saying taking into consideration a permanent classification it would be wetland?

A I wouldn't say a permanent classification because I would say this can vary.

Q Do you have a permanent classification of the property?

A No, I do not have a permanent classification.

Q And why is that?

A Well, because of different or changing conditions, depending on precipitation and the length of time that the water would stand on the land, because when you determine wetland in the classifications that we use, it specifies the amount of time on these sheets. If I may, I will clarify this.

Skipping Type 1, because this is not Type 1, but in Class 2, it said the soil usually is without water, without standing water during most of the growing season that is waterlogged within a few inches of its surface. This would be Class 2, and this would be [112] what they call inland fresh meadows. Then Class 3, the soil is usually waterlogged during the growing season. Often it is covered with as much as six inches or more of water, and I don't feel that that site would always be covered with that much water during the growing season. In other words, I am saying there would be dry years or years of lesser precipitation where the water would not be standing on there.

Q All right. Do you have any idea what percentage of the years it would be that way?

A Just an educated guess on it. I would think that probably less than five years of the time that it would be wet over a long period of time, like the period that was referred to here in the court from 1898, or whatever time it was, shortly before the turn of the century to now with the precipitation that we've had, I would guess it's probably less than five percent of the time that you would really classify that as Class 3 or wetter, which would be Class 4 or 5.

Q All right.

A I don't feel that it would be any longer than that.

Q When you said the southern portion of that property, can you indicate it on the exhibit next to you?

A Well, this would be in the area south of the property in this exhibit, and this is Exhibit what, 59?

[113] Q Yes.

A It would be in that area towards the south end. Like this would be the south River Road and this would be Jefferson. Down in this area you'd be more apt to find Class 3 or Type 3, but up in this other area, which is a little higher, I would say you are more apt to find at best a Class 2, and this would only be a temporary thing.

Q All right. Now, the area down below where you defined it as Class 2, is that also a temporary—

THE COURT: Class 3.

MR. DANK: I am sorry, Class 3.

A I didn't hear the last part of your question.

Q (By Mr. Dank, continuing): Would that be temporary?

A Yes, that would be temporary, too. It would be depending upon the amount of precipitation and on the length of time that the water stayed on the ground.

Q All right. Can you say whether or not from what you know about the property and its history that you would anticipate seeing wetland vegetation on the property as a normal course?

A On the south end near the Savan Drain, which is a little depressional down toward that end, I would say you would probably find it quite often, but on the northern part of it, I don't think you would.

Q Okay. The word I have used is normal. How would you [114] characterize it? Would it be normal?

A I would say it would be abnormal to see it all the time on the property. I think that the majority of the time you would not find it on there.

Q Periodically it could be though, is that correct?

A Yes.

Q Is that the statement you are making?

A Right.

Q Such as we're experiencing at this time?

A Right.

Q Now, you mentioned the classification of a meadow. Is that the property is saturated to within a few inches of the surface, is that correct?

A Right. That's from this definition.

Q All right. Now, you earlier told us that this property retains water, is that correct?

A Yes, it does.

Q Now, as a natural tendency, would it retain water to within a few inches of the surface?

A Well, sometimes. The water table, the natural water table would be up within several inches of the surface, but that water table would recede or be lower if you had an extended dry spell. In other words, it's a fluctuating water table. It does not always stay within a couple of inches.

[115] Q All right. Now, even if you had a dry spell, would you anticipate that this property would still have a high water table?

A Yes, yes, I would.

Q And would that be true even though it might not be in close proximity to the Clinton River or Lake St. Clair?

A Yes, this is my opinion.

Q You do know that there are other types, other areas in Macomb County that have this type of soil?

A This is true, and this is what I'm basing my statement on.

Q These characteristics follow through even though they're not close to the lake?

A Right.

Q Or other bodies of water?

A Right.

THE COURT: Now, let me ask you where there's classifications in this book, what page were those on, the classifications you are using?

THE WITNESS: Do you mean for the—

THE COURT: For the meadow.

THE WITNESS: No, that was on this other exhibit.

THE COURT: Oh.

THE WITNESS: On the other one.

[116] THE COURT: That's right.

THE WITNESS: That's Class 2.

THE COURT: I have it here.

THE WITNESS: Or Type 2 would be the meadow and then Type 3 would be inland shallow fresh marshes.

THE COURT: All right. I have it.

Q (By Mr. Dank, continuing): Does the County of Macomb control the fill of this kind in any way?

A The control, if you will, is not on the filling itself, but it's on the control of erosion on a site like this or other sites. I'll clarify that by saying I believe you're referring to Public Act 347 that the Macomb County Public Works Commissioner is charged with the responsibility of enforcing that act.

The requirements in the act are that anyone who is moving earth that is in proximity to a waterway must come up with a plan, a definite engineering plan showing how they will contain the sediment on the site to prevent sedimentation of waterways, and that is what the county would be involved in.

Now, the county would not have any say as to what material would be put on the site. I mean, I am speaking now when I say county in regards to Act 347, but they would be responsible for seeing that [117] the way that this was done would not create a hazard to adjacent or adjoining waterways, and that would count road ditches, county drains, natural water courses or other bodies of water, and it is also interpreted that it would not be done in such a way that the soil would wash onto an adjoining property. This would be a requirement that the sediment and the erosion control would be such that no sediment is to leave the site.

Q Has a permit been obtained by the defendants—

A Yes.

Q —from the county?

A Yes, it has.

CROSS EXAMINATION

BY MR. BEHRINGER:

[128] Q Would a drainage ditch help you reduce the water table on that property?

A If there were artificial or let's say mechanical lift stations to remove the water—

Q Why are you requiring mechanical lift stations?

A Because of the topography.

Q What do you know about the topography of this area?

A I know that it's relatively flat. It does slope slightly to the south and southeast.

[164] MR. BERHINGER: The whole area is a Lamson soil?

THE WITNESS: Yes, but the whole area would not be affected by the lake is what I'm saying.

THE COURT: Are you drawing the boundary line on Exhibit 37, the red square?

THE WITNESS: No, I did not. I said it was too far inland. Another reason I say that, if this were true, if you check your soils book you'll find that south of Metropolitan Beach Highway—I know I'm getting off the site, but there's the same kind of soil and there are very, very many houses down there, and if this were true that the water, as the water level came up on Lake St. Clair, if this was going to move laterally through that soil, those houses would be collapsing because there would be no support for them.

Q (By Mr. Behringer, continuing): Would you know if that soil is topographically a little higher?

A Not much.

Q Not much?

A It's pretty much the same down through there. If you [165] check the geodetic survey map, it will show you that there are definite contour lines that make that very similar.

Q Does that area have any wetland in it?

A There are some, but not very many.

Q Do homes have basements in that area?

A Yes, there are basements down there, I know. Refer, if you will, to, let's see, that would be Page 31, I think. Let me just double-check to see what I'm talking about.

THE COURT: Thirty-one of what?

THE WITNESS: Of the sheets in the back.

THE COURT: Of your sheets in the back?

THE WITNESS: Right.

THE COURT: All right.

THE WITNESS: Sheet 31 and Sheet 34.

THE COURT: Okay.

THE WITNESS: If you will notice on Sheet 31, there is a very large amount of Lamson soil that's been mapped. The road at the bottom of the map is Fourteen Mile Road. The next one up is Fifteen Mile. You'll notice that there is a lot of Lamson soil even west of the I-94 expressway and adjacent to it along Harper Road. It runs

up through there. There's quite a [166] bit of Lamson and then up in the northeast corner of that particular map, up around Sixteen Mile Road, the Metropolitan Beach Highway, there is a lot of Lamson soil up in there, too, and there's some there just above where it says or near the N in Harrison, you'll notice that there is no obstruction between that Lamson and the lake, yet there are houses along there.

* * * *

[180] Q Let's talk about lateral transmission of water through soils. If there was a free transmission of water under this soil, what would happen to South River Road?

A Well, the road would probably not be available. The road would probably collapse if water moved freely through it, because anytime—let me qualify that, if I may.

Anytime a water is moving, it will move any movable soil particles, and this would reduce the bearing capacity or stability of the road if the water were moving, and it would shift those soils and the road would tend to collapse.

Q Would the same thing be true of houses that are built let's say, for instance, in these subdivisions?

THE COURT: That is all made land, though, that sub?

THE WITNESS: That's made land.

MR. DANK: But if the soil were free [181] to transmit the water from one canal to the other, seeing that most of these homes have water on all sides of them, would it not be true that the house would not be supported in the soil?

A This is true.

Q (By Mr. Dank, continuing): So whether it is made land or the land is in its natural state, ground does have a tendency to absorb water only for a certain distance, isn't that correct?

A This is true, right.

Q I thought I had some chalk here. Just so that we

can illustrate this principle, I am going over to the blackboard behind my chair here and I will draw a horizontal line which we will assume is ground level, and there becomes a slope into a depressed area in which Lake St. Clair is in.

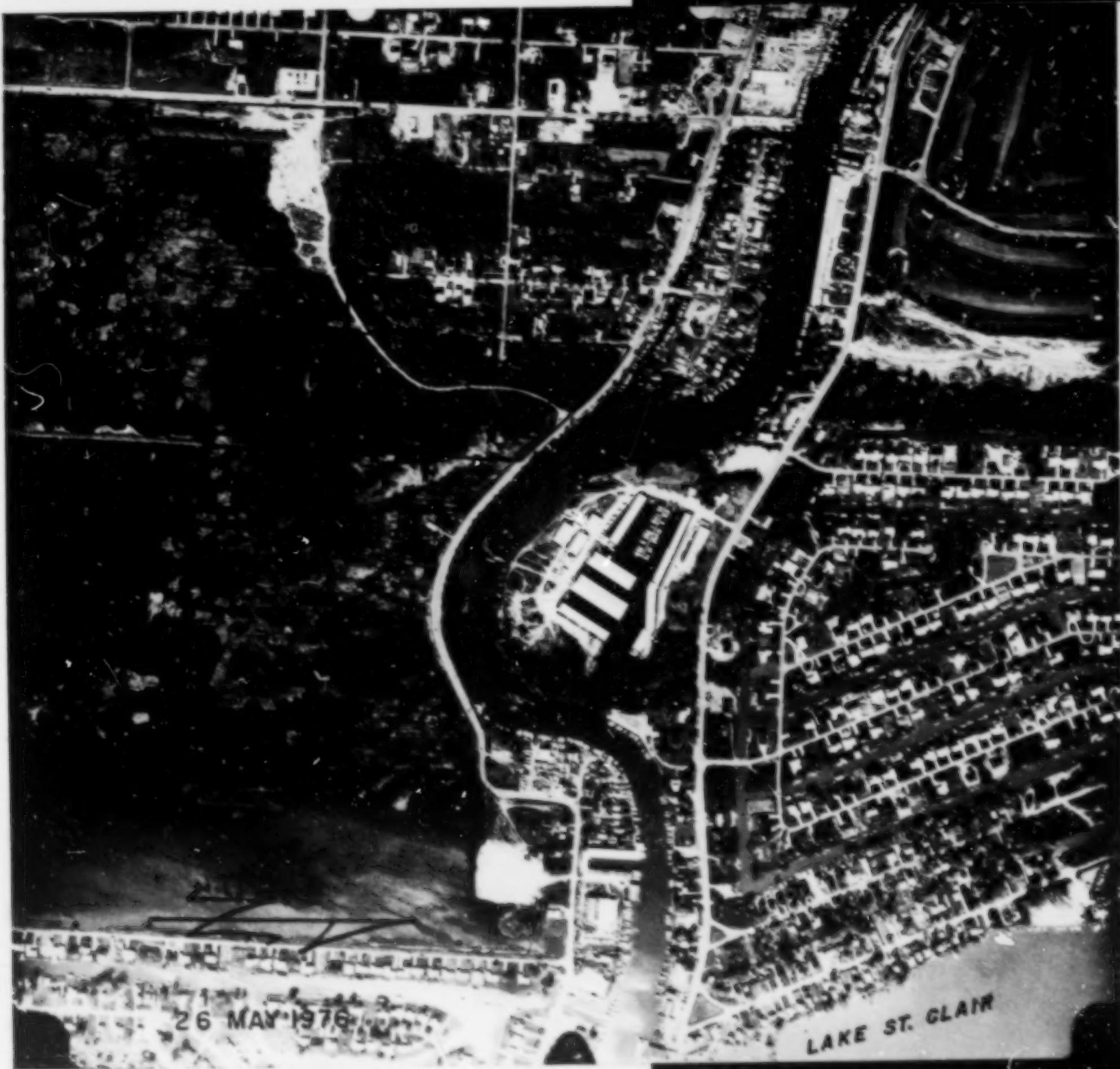
Would there be some point back along the shoreline at which the water moving laterally through the soil from Lake St. Clair would stop?

A Yes.

Q All right. Now, with a Lamson soil, do you have an idea how far in land the influence of the lake water would cease to be of importance?

A I would estimate that to be a distance of between 50 and 60 feet, at the very most.

PLAINTIFF'S EXHIBIT 1: AERIAL PHOTOGRAPH
OF RESPONDENTS' PROPERTY, MAY 26, 1976



SUPREME COURT OF THE UNITED STATES

No. 84-701

UNITED STATES, PETITIONER

v.

RIVERSIDE BAYVIEW HOMES, INC., ET AL.

ORDER ALLOWING CERTIORARI

Filed February 19, 1985

The petition herein for a writ of certiorari to the *United States Court of Appeals for the Sixth Circuit* is granted.

Justice Powell took no part in the consideration or decision of this petition.